Maryland's Tributary Strategies

Best Management Practices Progress Report

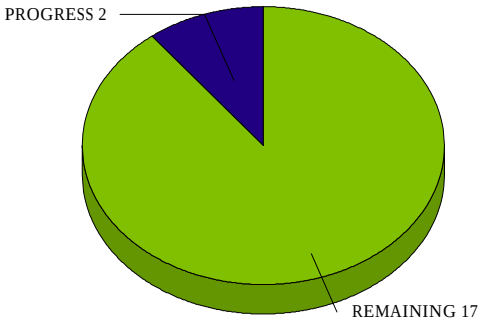
Prepared by
Maryland Department of Natural Resources
Chesapeake & Coastal Watershed Service

October 1999

Choptank

Animal Waste Management Systems: Livestock

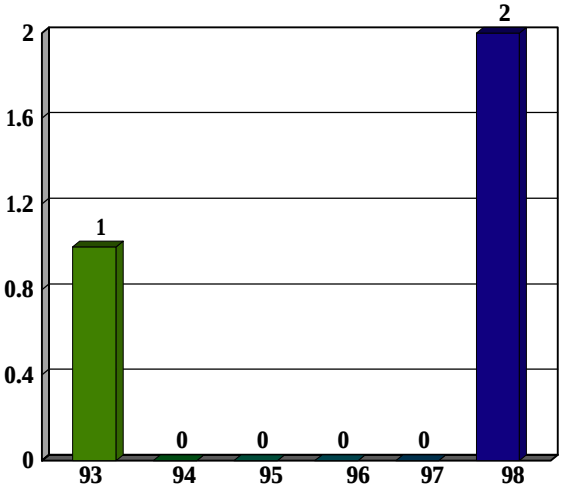
TS Goal: 19 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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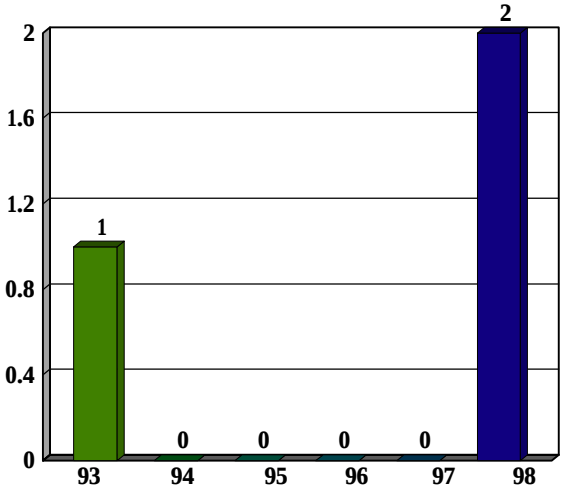


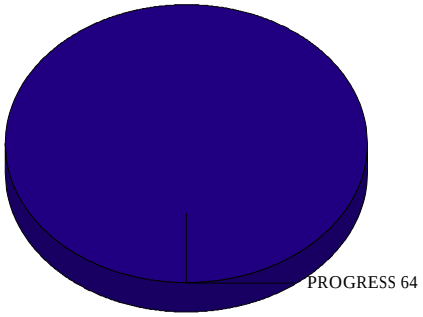
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Choptank

Animal Waste Management Systems: Poultry

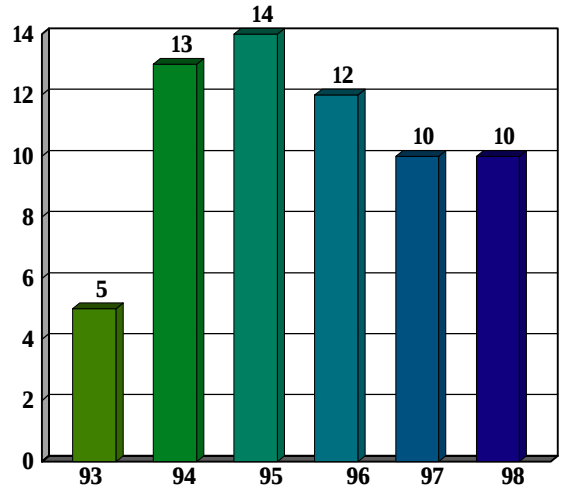
TS Goal: 30 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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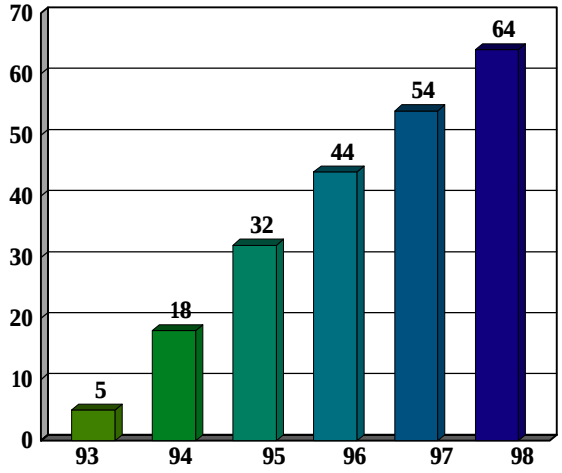

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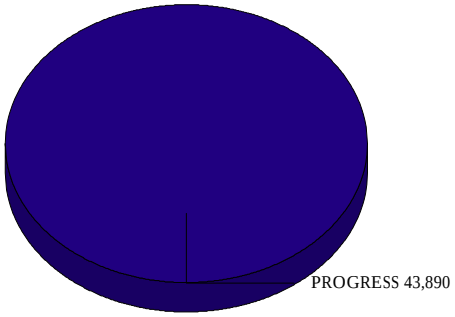
Choptank

Conservation Tillage

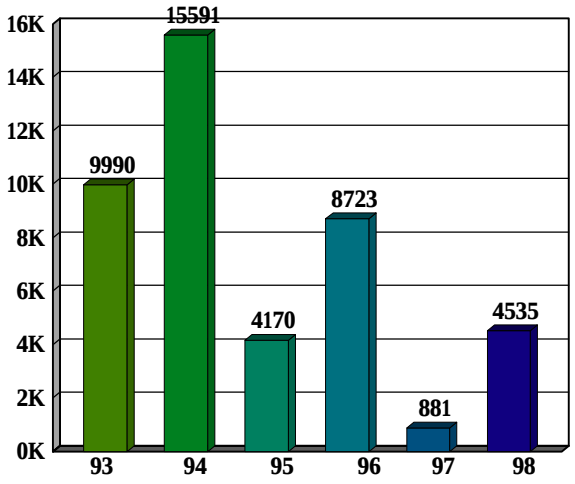
TS Goal: 27,134 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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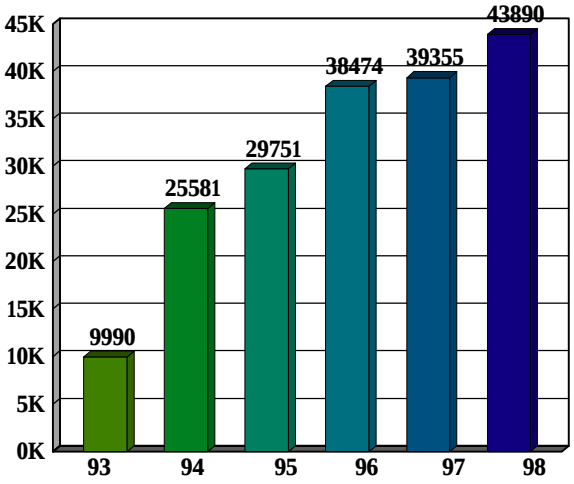

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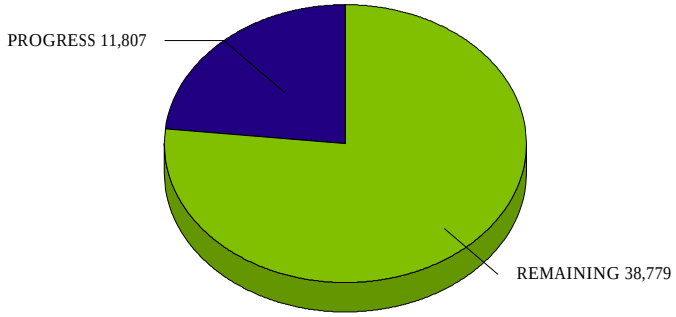
Choptank

Cover Crops

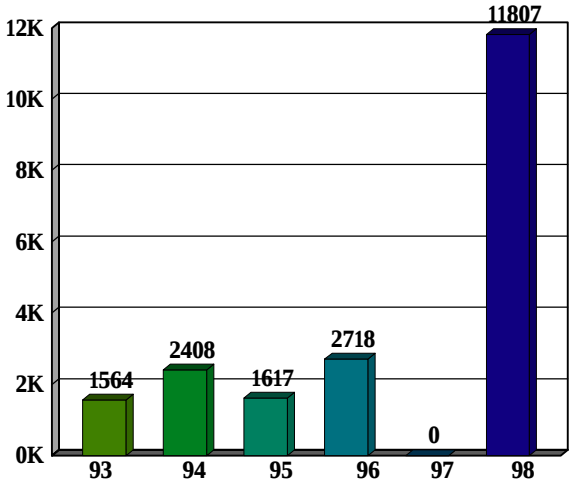
TS Goal: 50,586 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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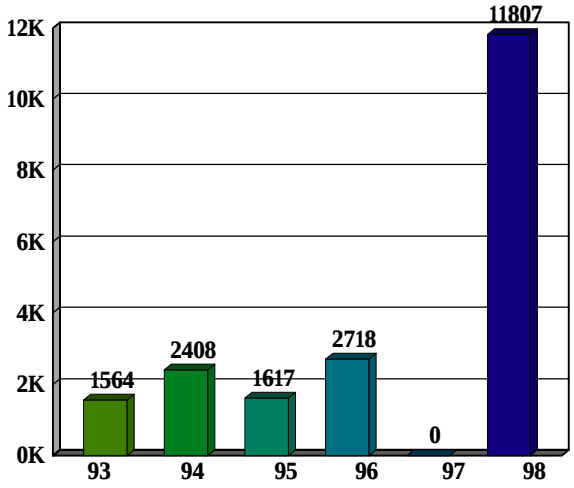

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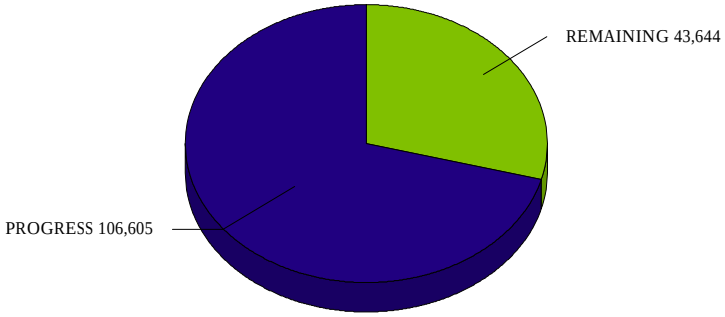
Choptank

Nutrient Management Plan Implementation

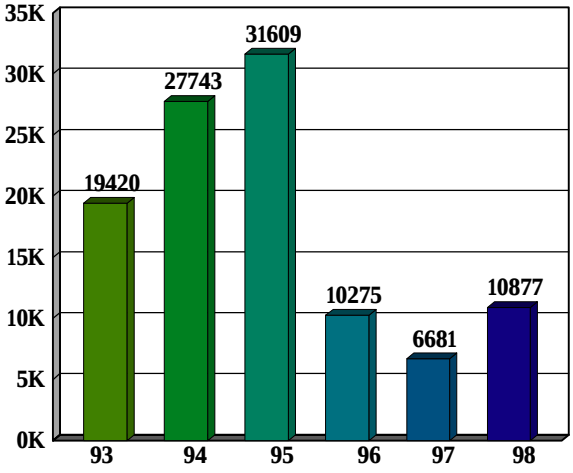
TS Goal: 150,249 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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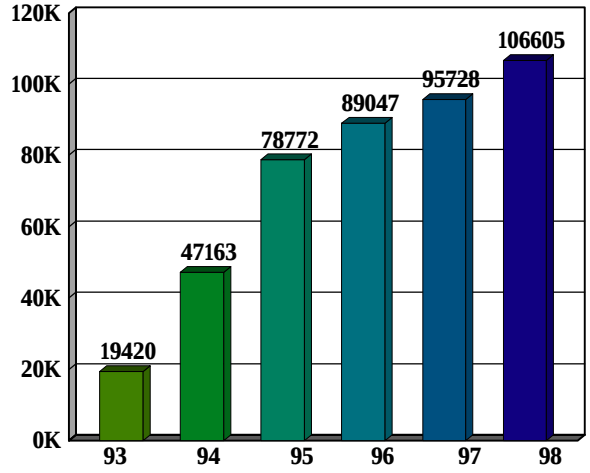

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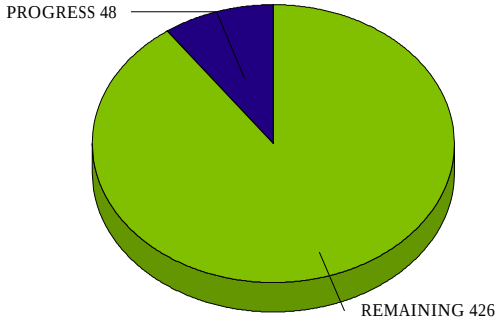
Choptank

Retirement of Highly Erodible Land

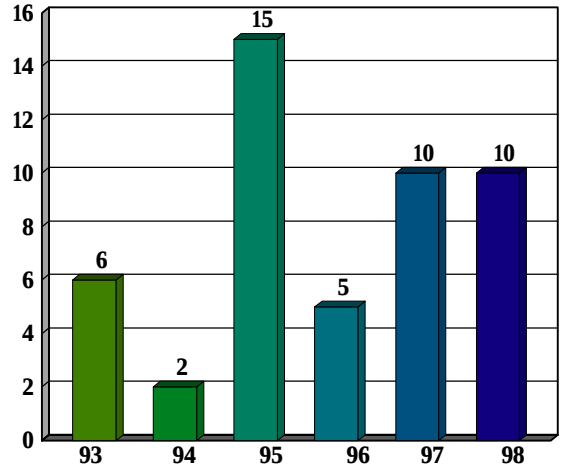
TS Goal: 474 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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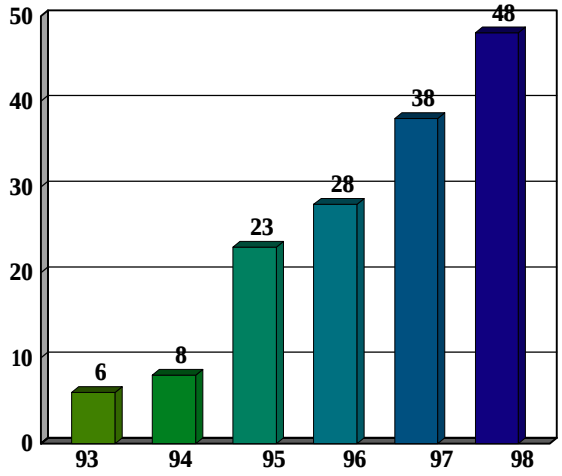

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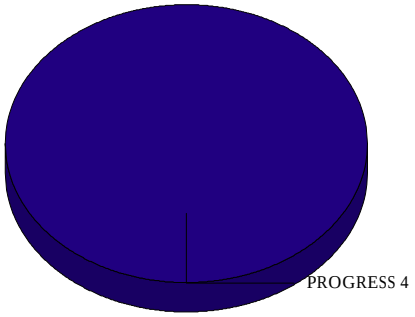
Choptank

Runoff Control

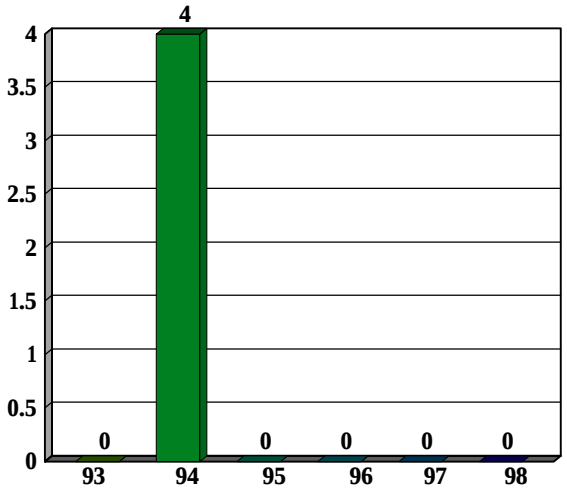
TS Goal: 2 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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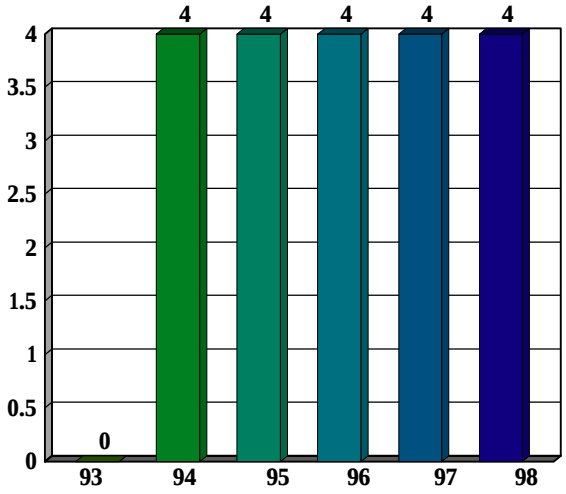

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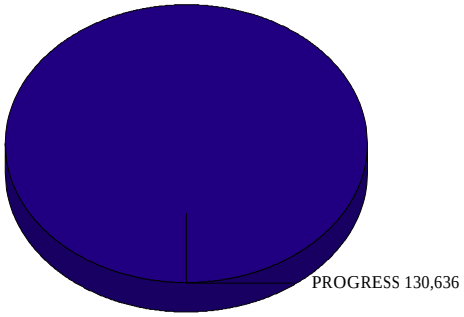
Choptank

SCWQP Implementation and Treatment of Highly Erodible Land

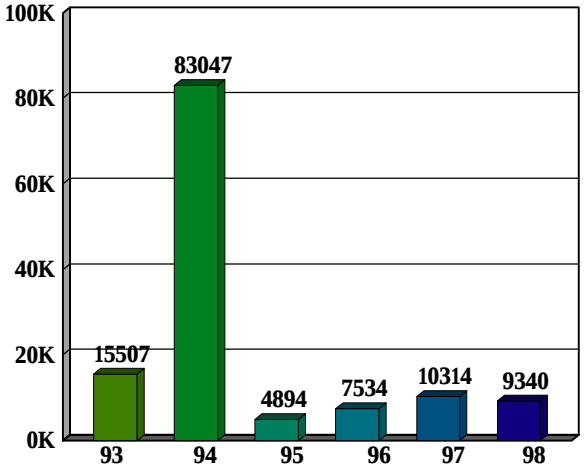
TS Goal: 36,611 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



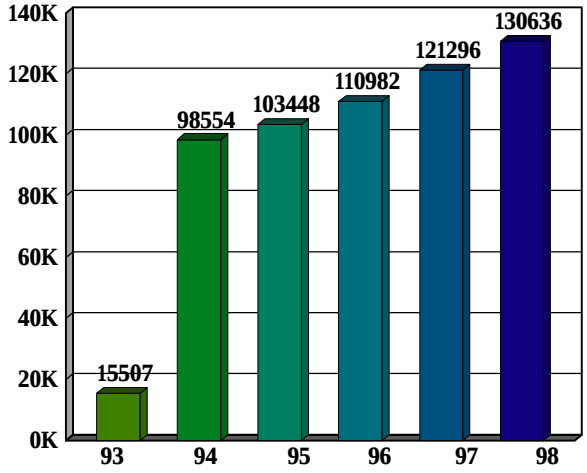
1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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Choptank

Stream Protection with Fencing

TS Goal: 0 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low

1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual **Cumulative**

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Choptank

Stream Protection without Fencing

TS Goal: 0 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low

1998 Progress for Stream Protection without Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual **Cumulative**

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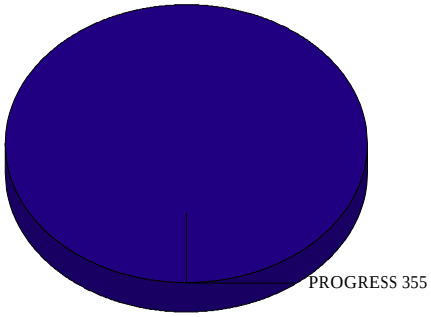
Choptank

Forest Conservation

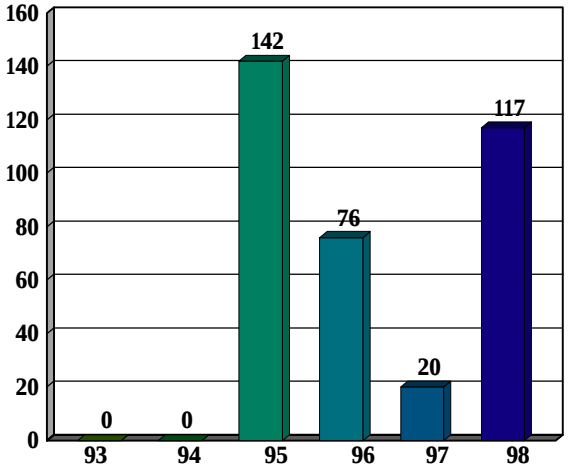
TS Goal: 167 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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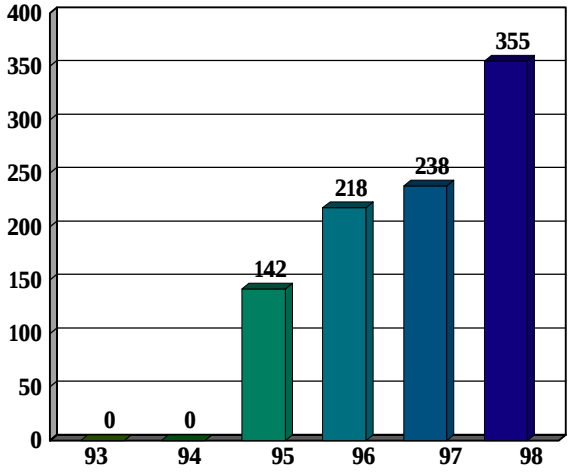

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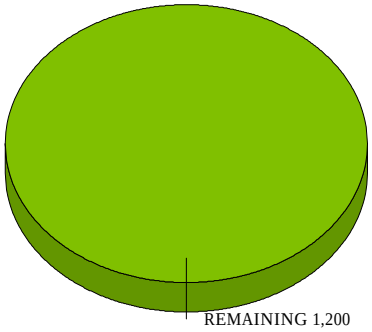
Choptank

Forest Harvesting Practices

TS Goal: 1,200 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual	Cumulative

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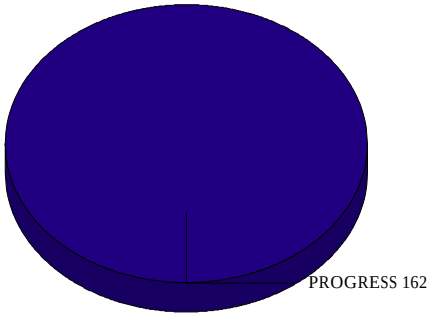
Choptank

Forested Buffers

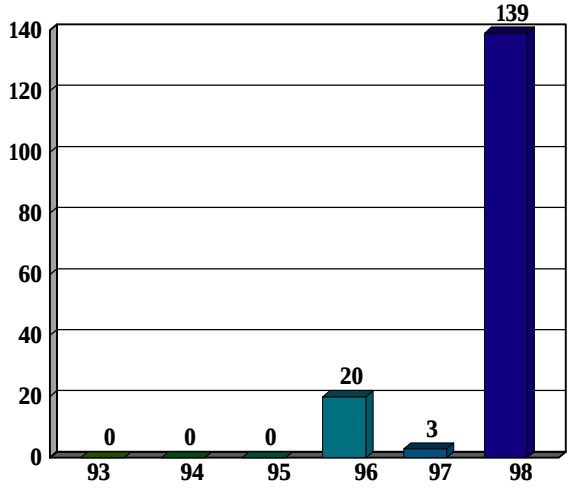
TS Goal: 132 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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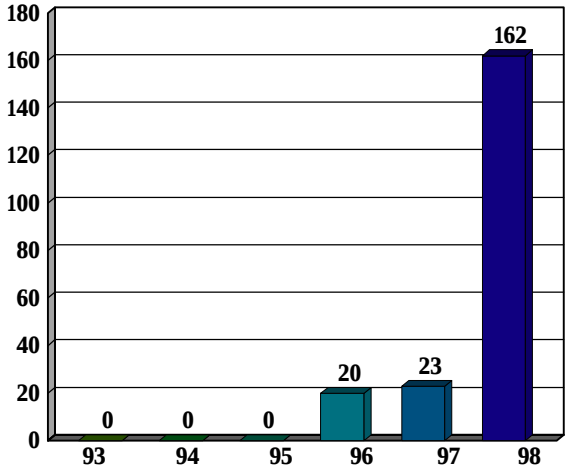

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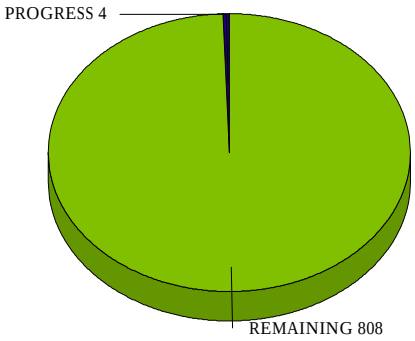
Choptank

Grassed Buffers

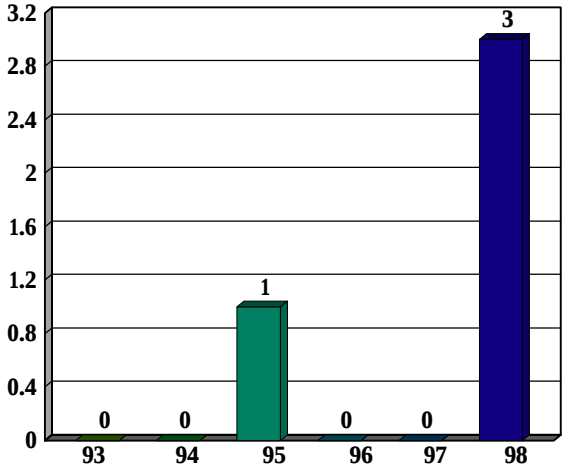
TS Goal: 812 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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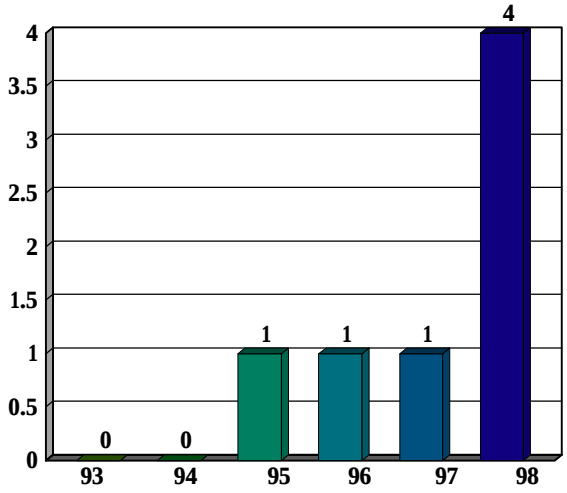

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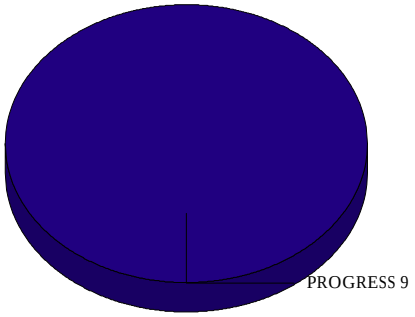
Choptank

Marine Pumpouts (installation)

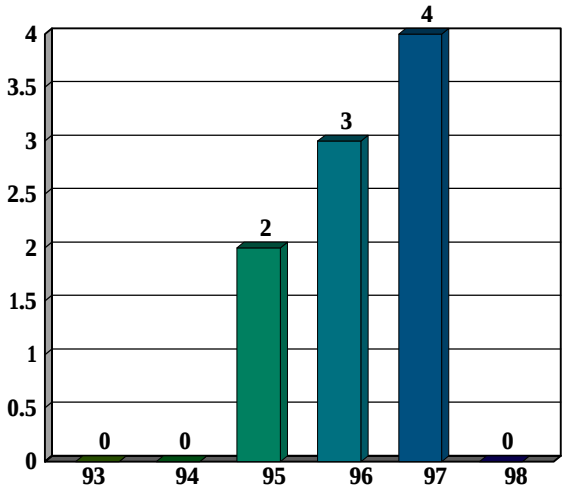
TS Goal: 8 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



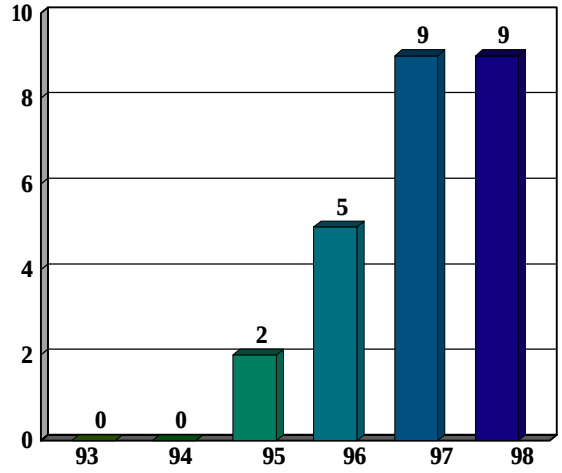
1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record

(marinas)



Annual



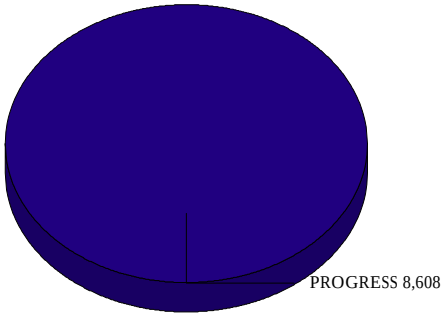
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Choptank

Nonstructural Shore Erosion Control

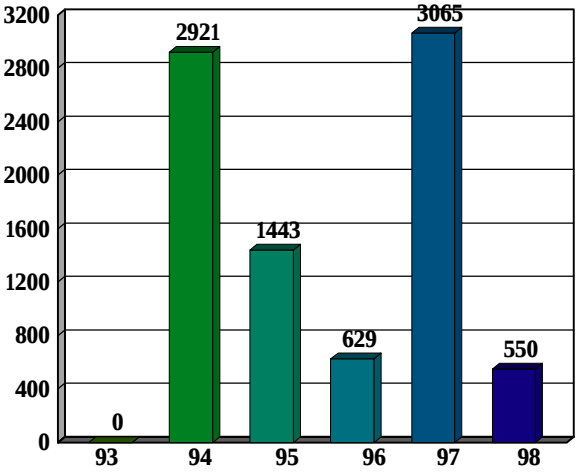
TS Goal: 6,560 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



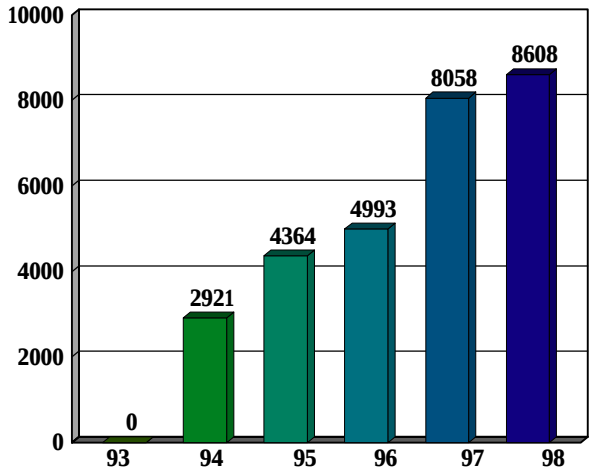
1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



Annual



Cumulative

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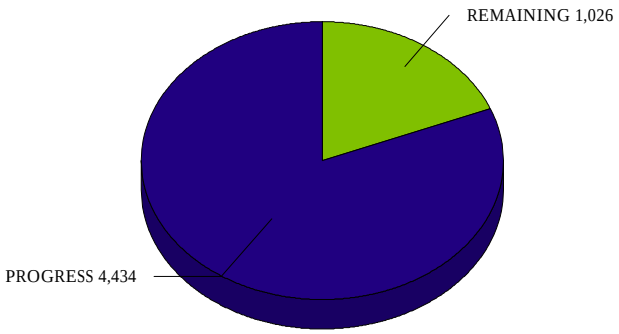
Choptank

Structural Shore Erosion Control

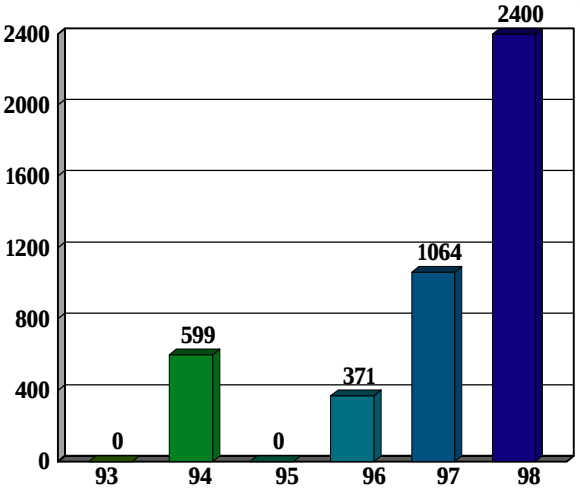
TS Goal: 5,460 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



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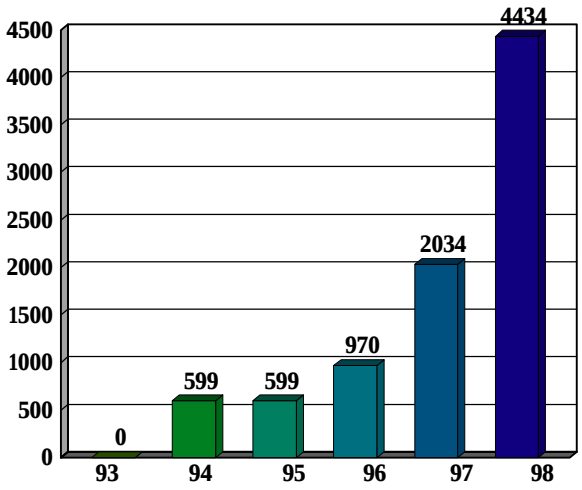

Cumulative

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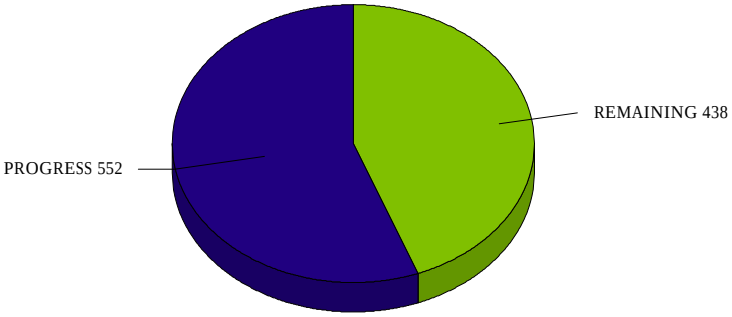
Choptank

Tree Planting

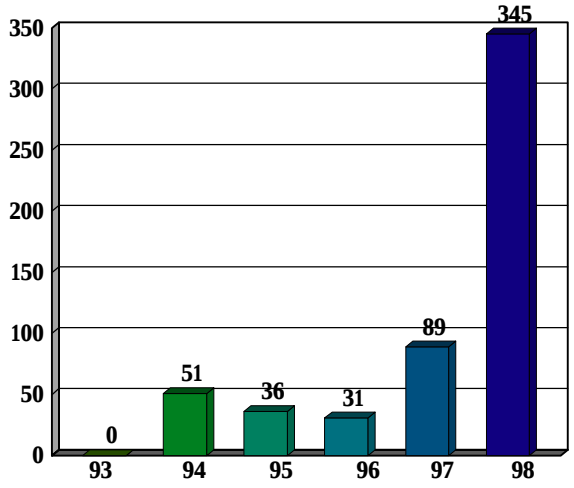
TS Goal: 990 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



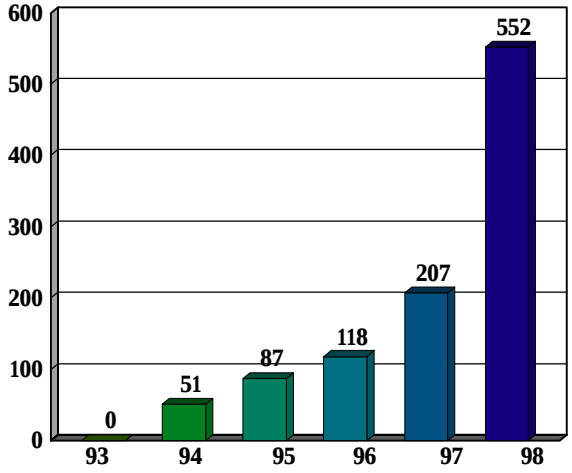
1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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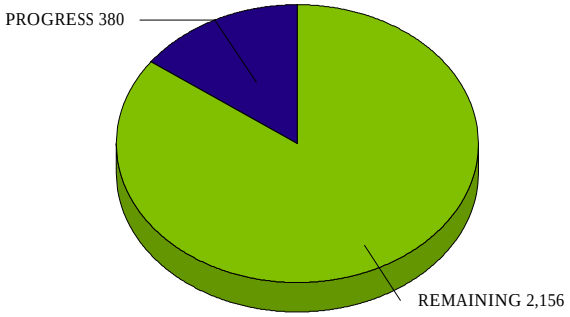
Choptank

Enhanced Stormwater Management

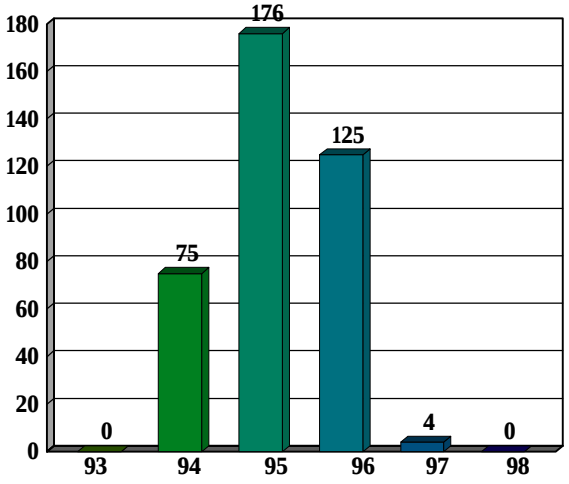
TS Goal: 2,536 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



1998 Progress for Enhanced Stormwater Management (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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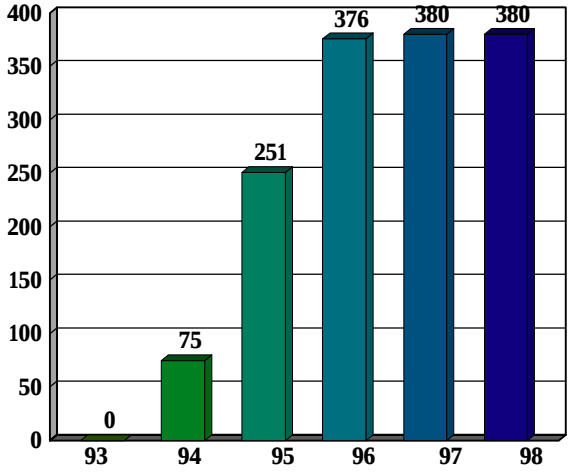

Cumulative

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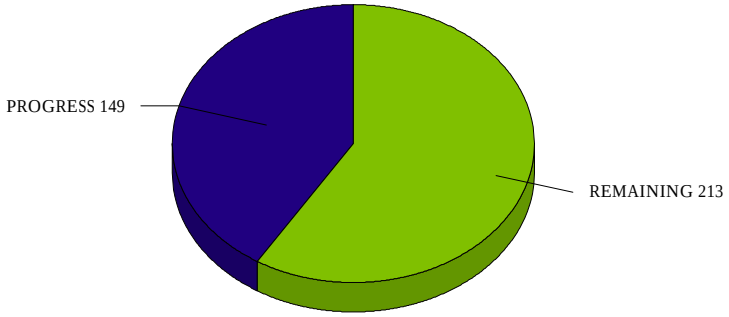
Choptank

Erosion and Sediment Control

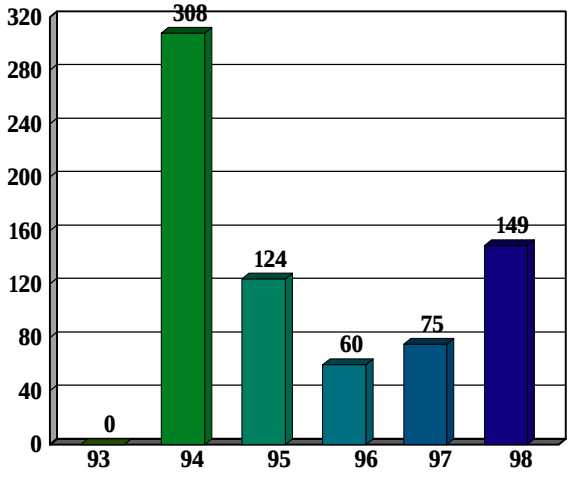
TS Goal: 362 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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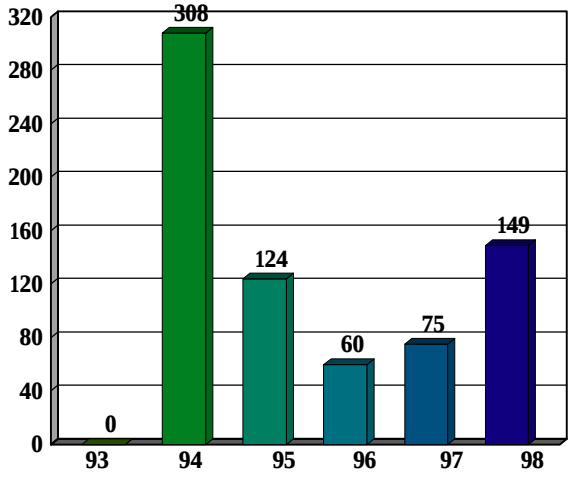

Cumulative

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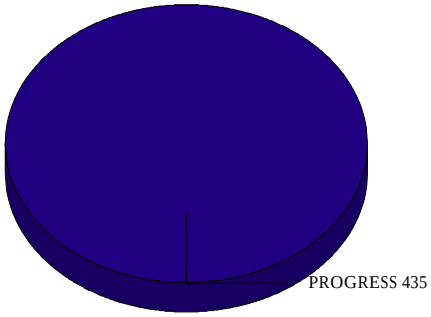
Choptank

Septic Connections

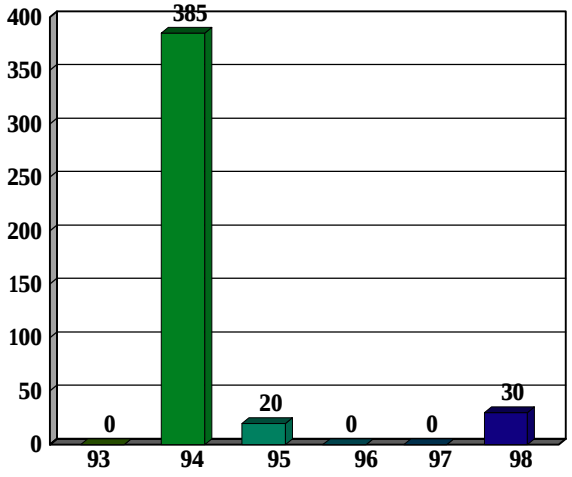
TS Goal: 125 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



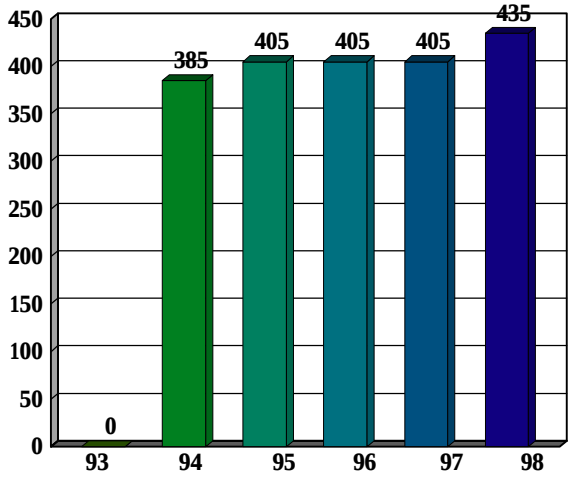
1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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Choptank

Septic Denitrification

TS Goal: 0 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a

1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

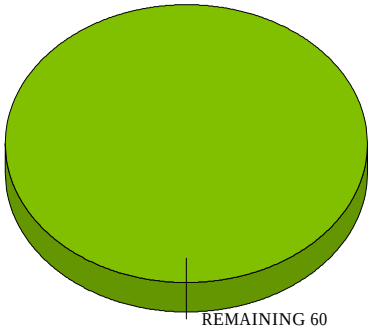
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Choptank

Septic Pumping

TS Goal: 60 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

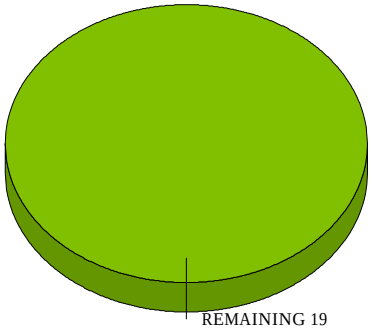
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Choptank

Stormwater Management Conversion

TS Goal: 19 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

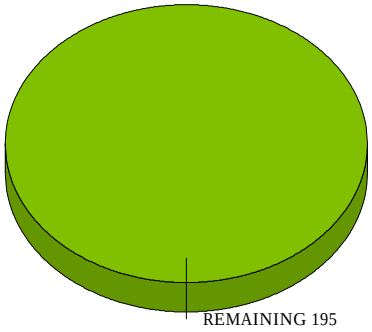
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Choptank

Stormwater Management Retrofits

TS Goal: 195 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Retrofits
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

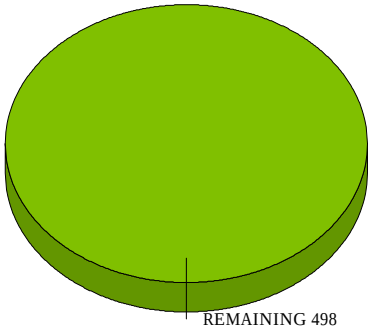
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Choptank

Urban Nutrient Management

TS Goal: 498 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual **Cumulative**

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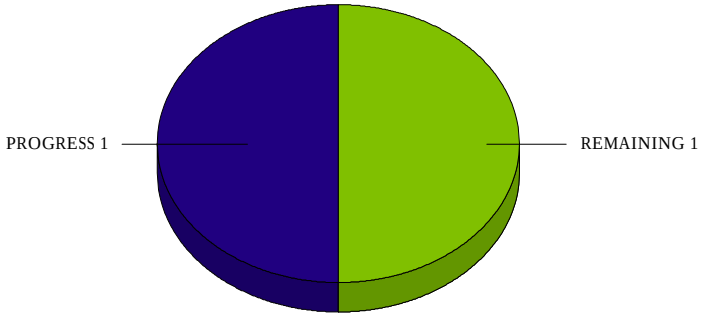
Lower Eastern Shore

Animal Waste Management Systems: Livestock

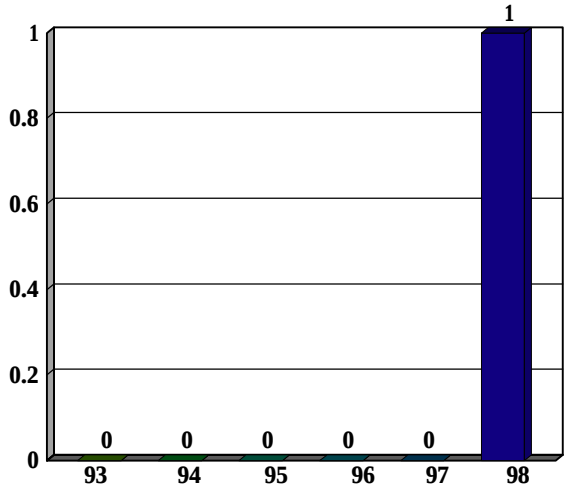
TS Goal: 2 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



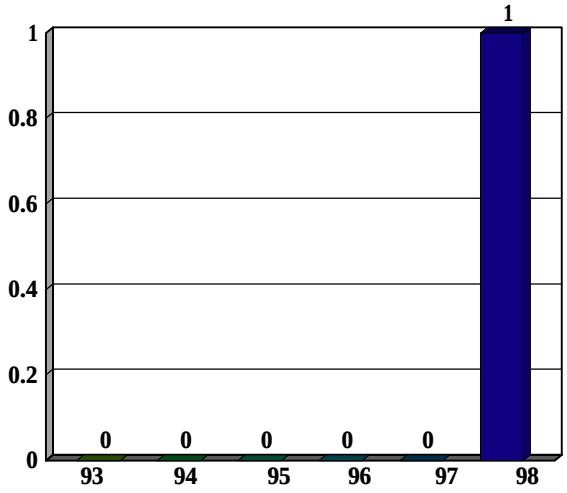
1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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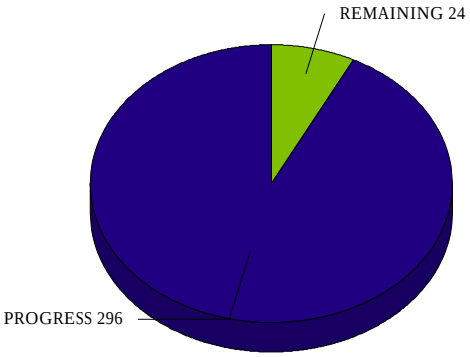
Lower Eastern Shore

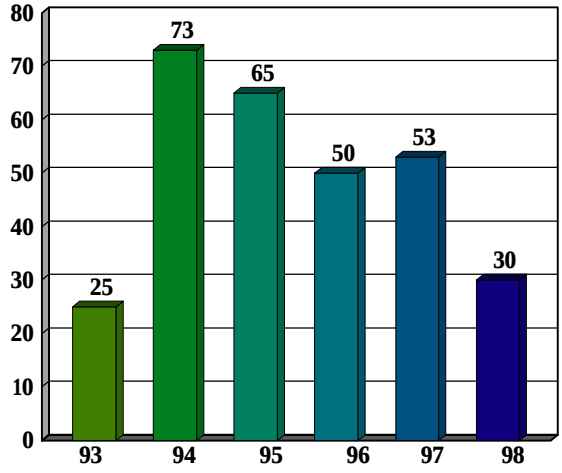
Animal Waste Management Systems: Poultry

TS Goal: 320 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)



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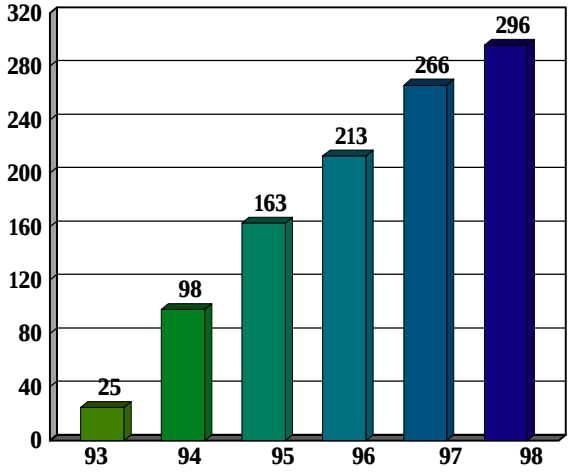

Cumulative

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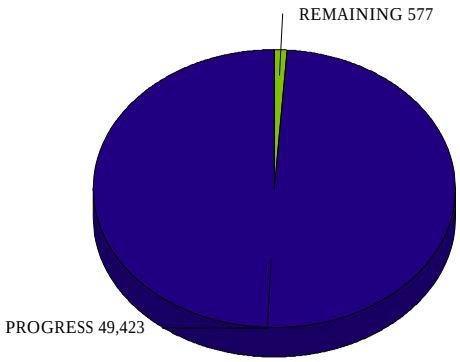
Lower Eastern Shore

Conservation Tillage

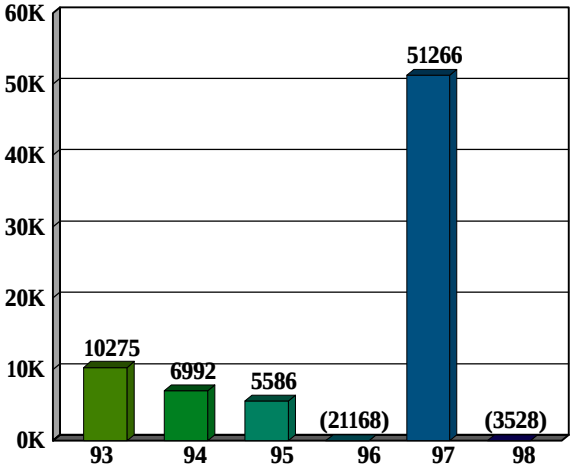
TS Goal: 50,000 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



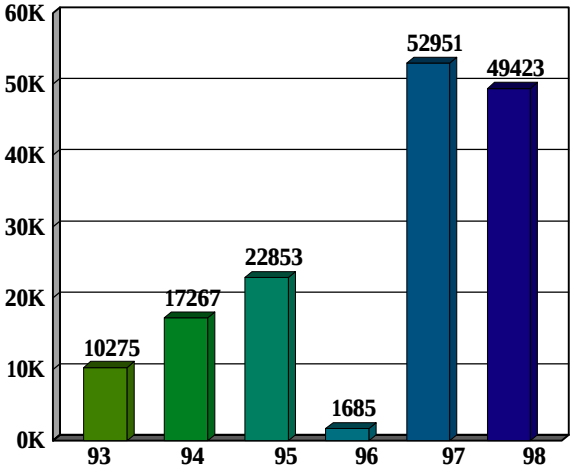
1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



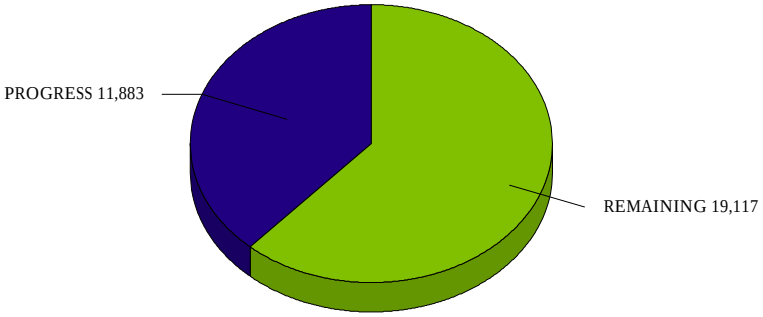
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Cover Crops

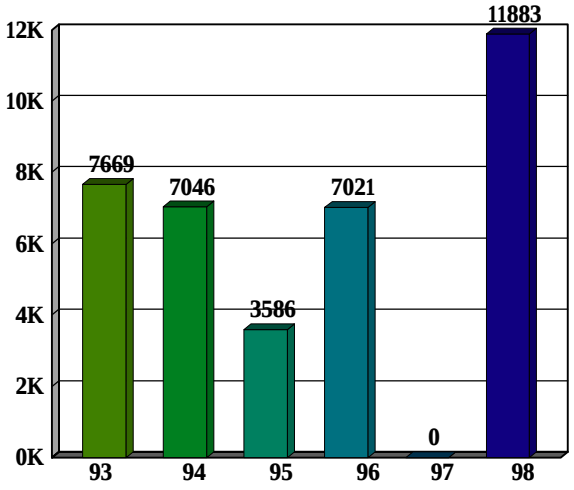
TS Goal: 31,000 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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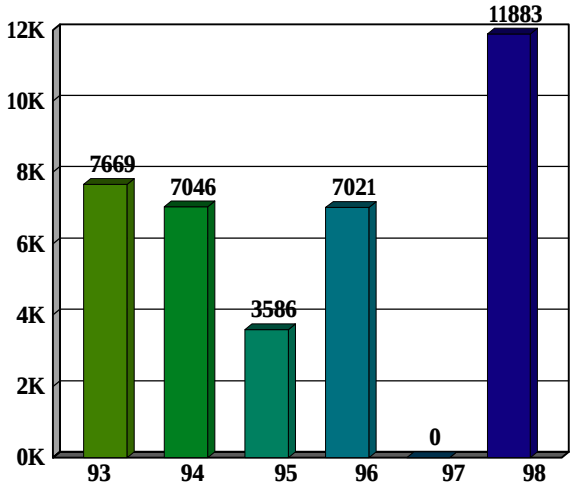

Cumulative

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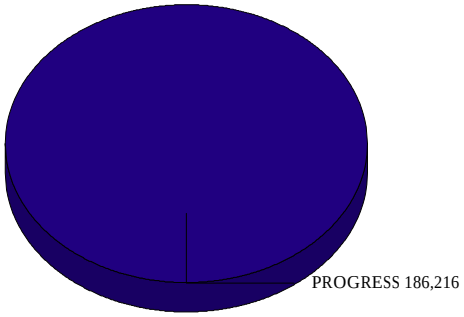
Lower Eastern Shore

Nutrient Management Plan Implementation

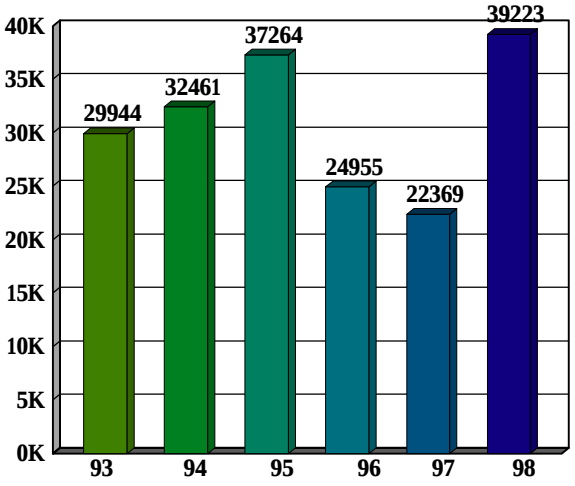
TS Goal: 83,000 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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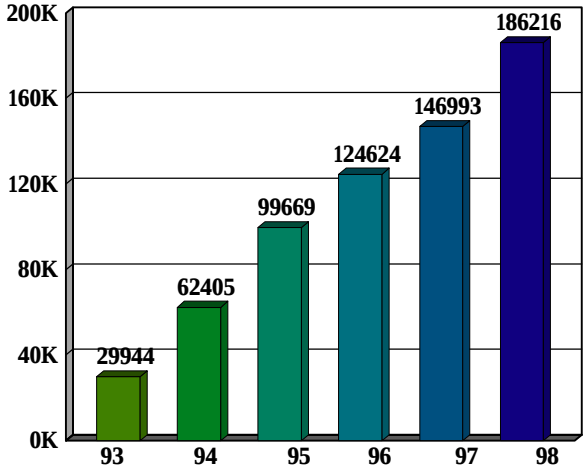

Cumulative

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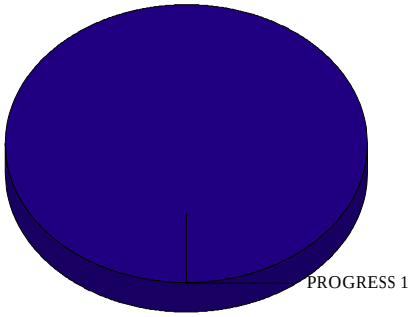
Lower Eastern Shore

Retirement of Highly Erodible Land

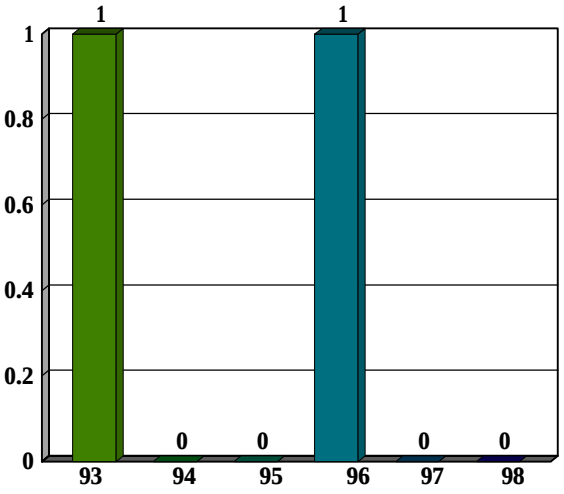
TS Goal: 0 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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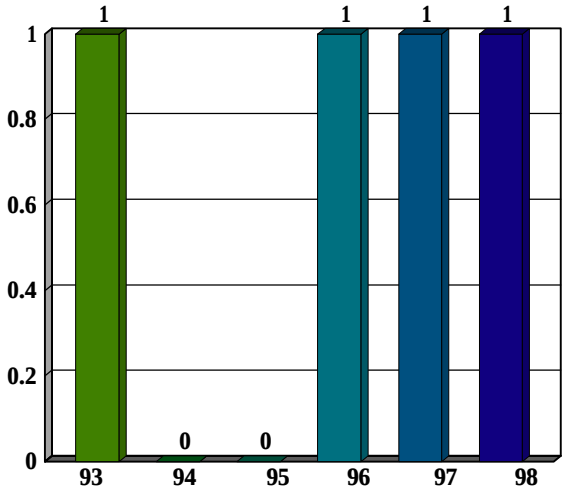

Cumulative

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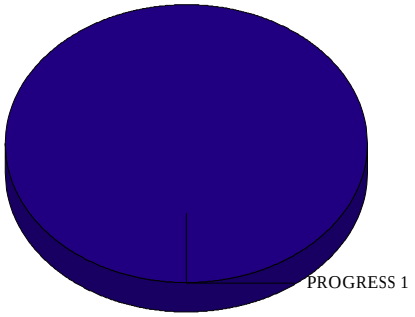
Lower Eastern Shore

Runoff Control

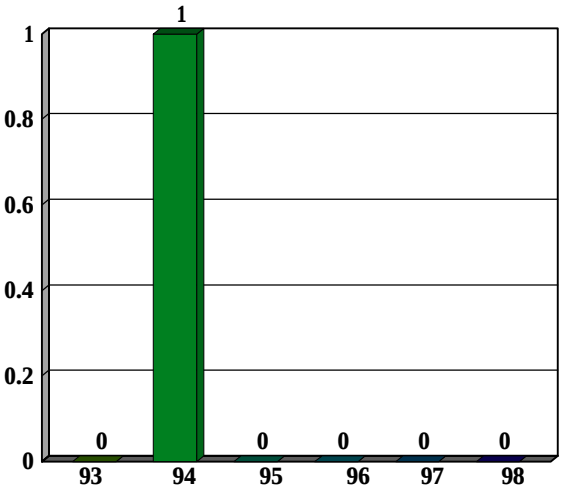
TS Goal: 0 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



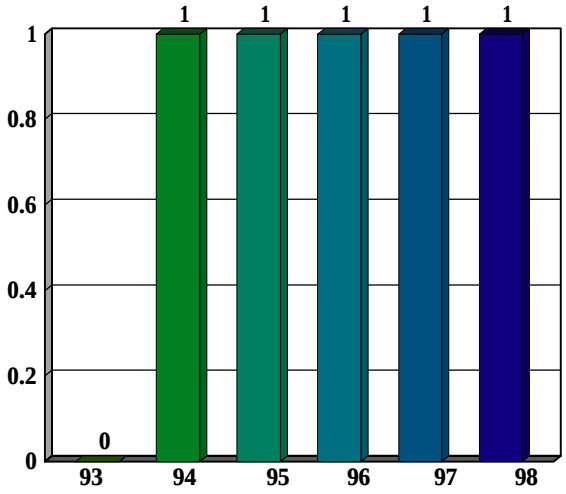
1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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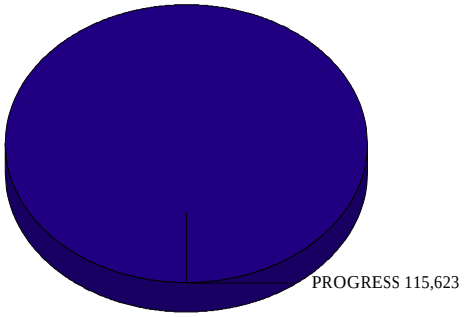
Lower Eastern Shore

SCWQP Implementation and Treatment of Highly Erodible Land

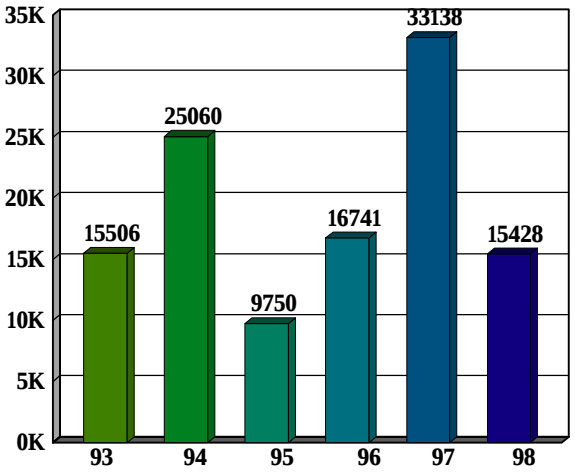
TS Goal: 87,500 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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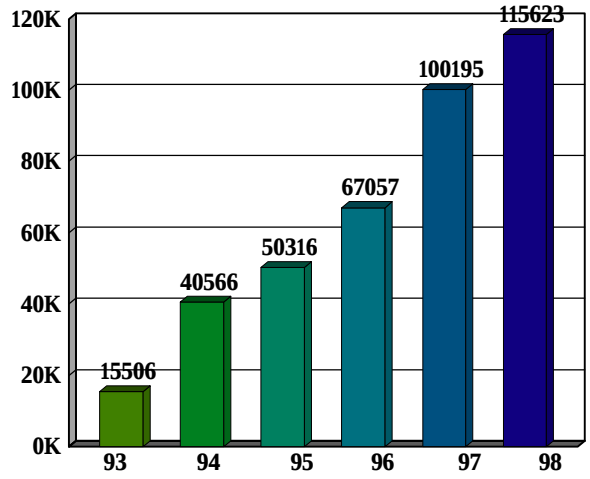

Cumulative

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Lower Eastern Shore

Stream Protection with Fencing

TS Goal: 0 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low

1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Stream Protection without Fencing

TS Goal: 0 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low

1998 Progress for Stream Protection without Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

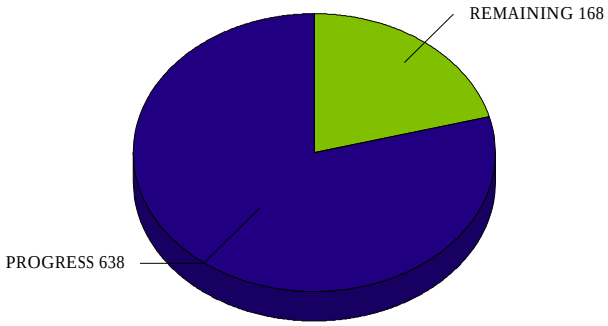
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Forest Conservation

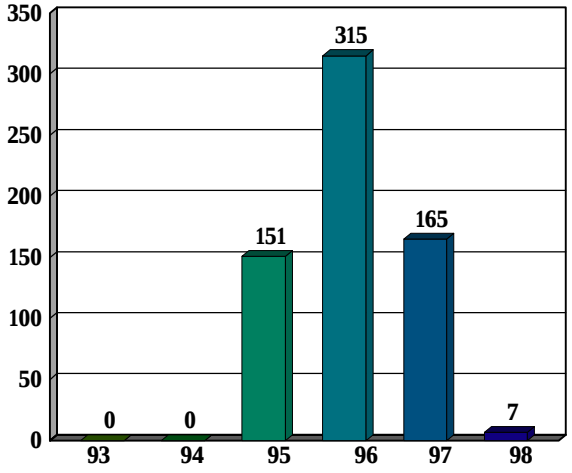
TS Goal: 806 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



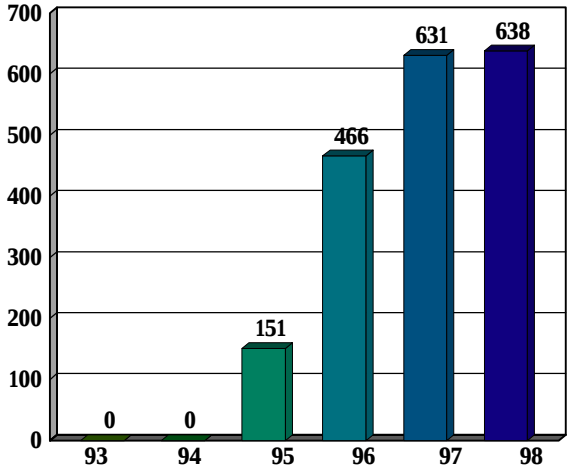
1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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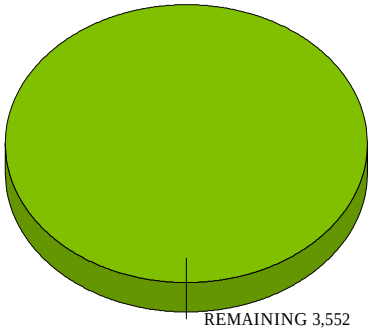
Lower Eastern Shore

Forest Harvesting Practices

TS Goal: 3,552 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

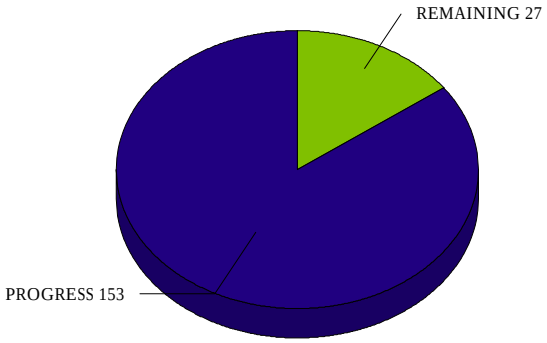
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Forested Buffers

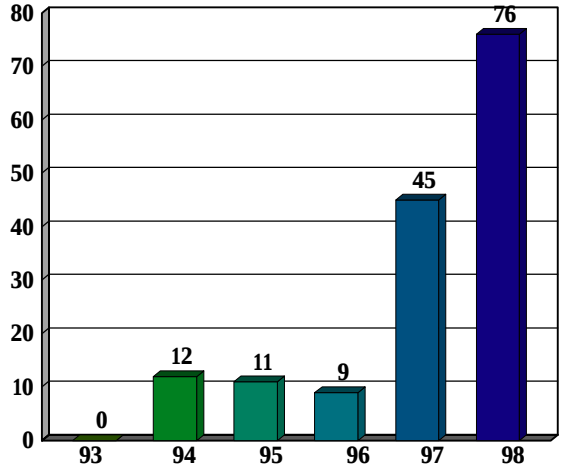
TS Goal: 180 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



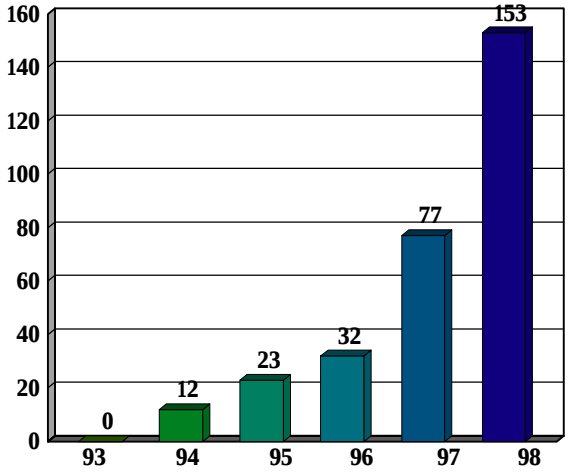
1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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Lower Eastern Shore

Grassed Buffers

TS Goal: 0 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual **Cumulative**

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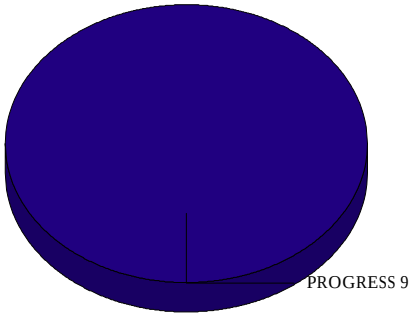
Lower Eastern Shore

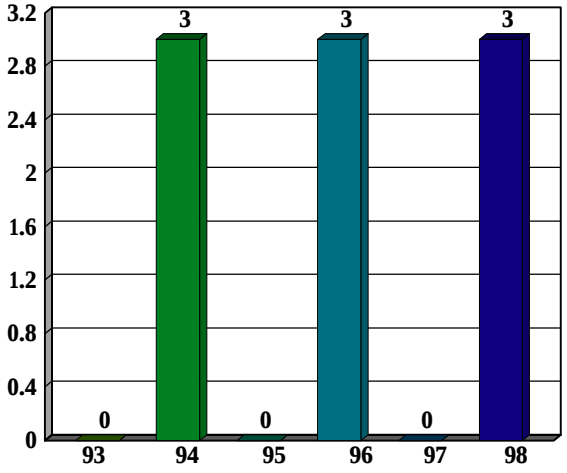
Marine Pumpouts (installation)

TS Goal: 5 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

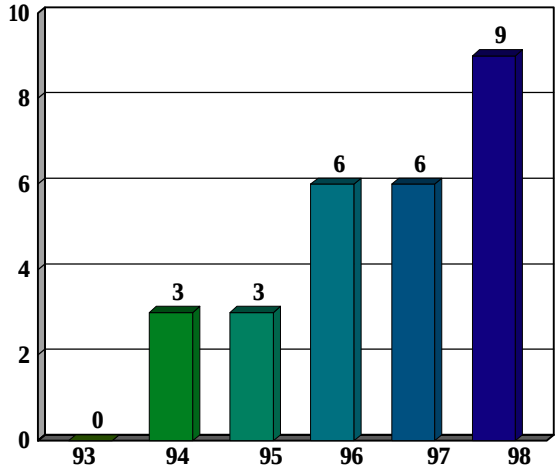


1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record
(marinas)



Annual



Cumulative

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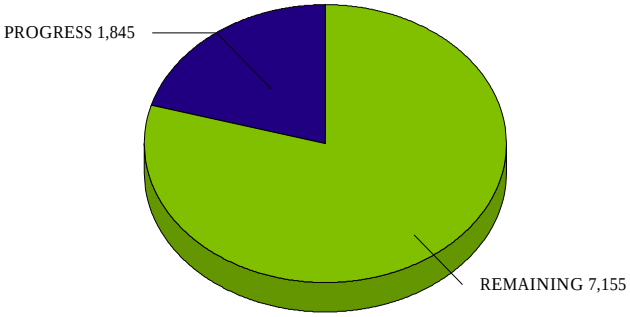
Lower Eastern Shore

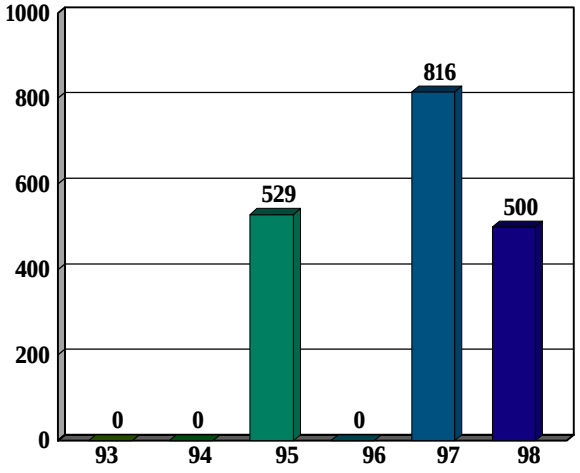
Nonstructural Shore Erosion Control

TS Goal: 9,000 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record
(linear feet)



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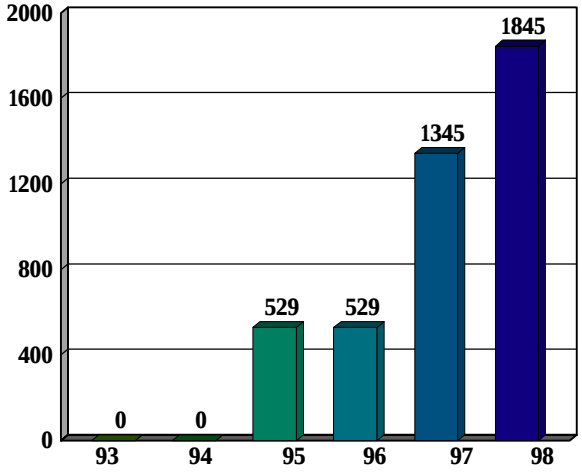

Cumulative

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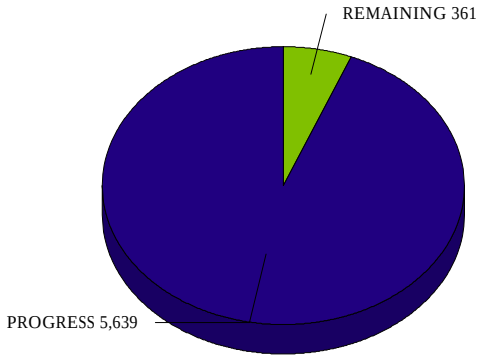
Lower Eastern Shore

Structural Shore Erosion Control

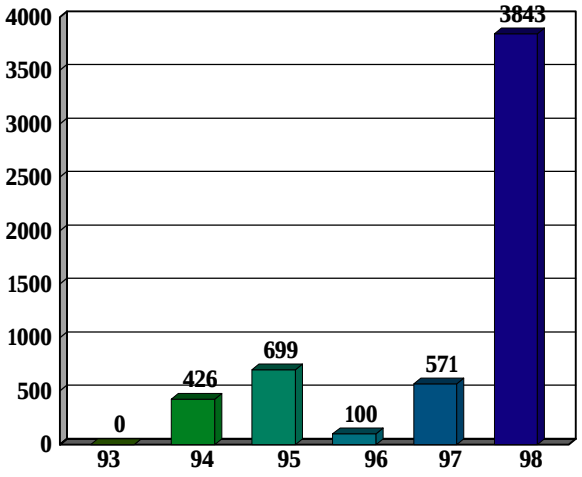
TS Goal: 6,000 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



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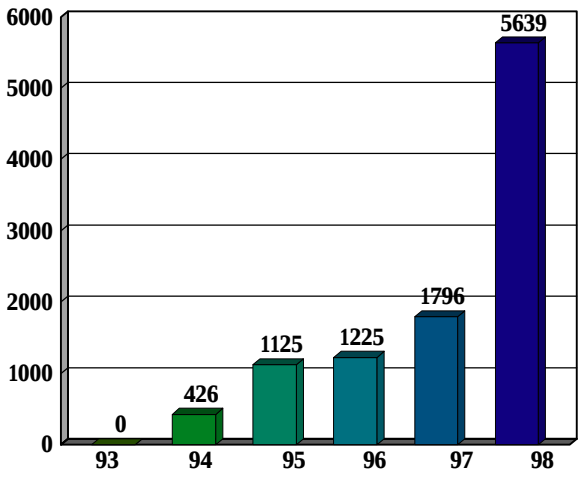

Cumulative

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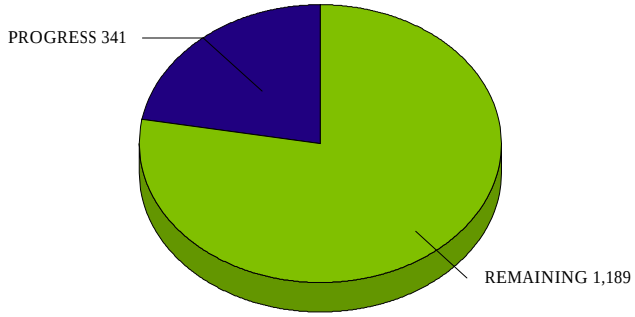
Lower Eastern Shore

Tree Planting

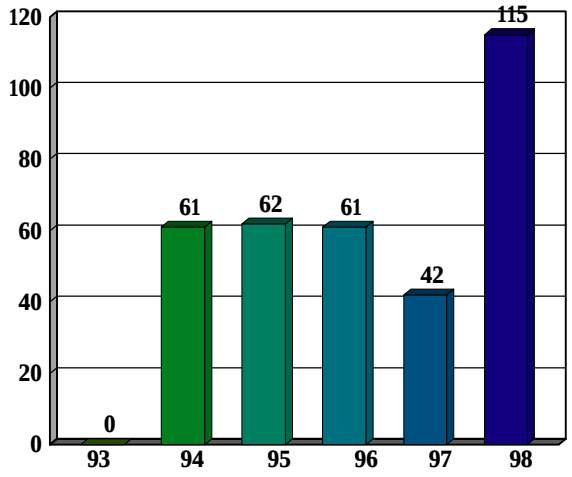
TS Goal: 1,530 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



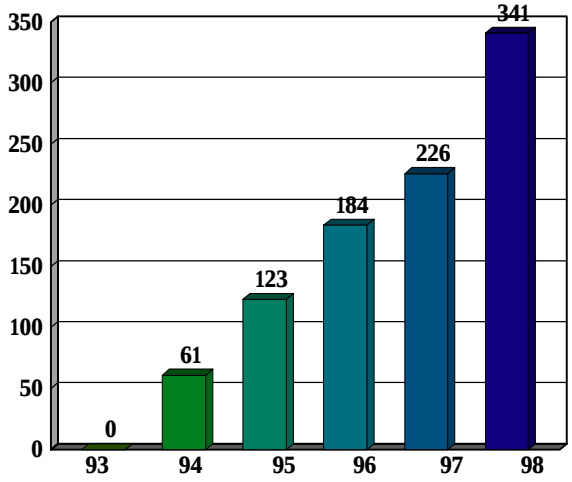
1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



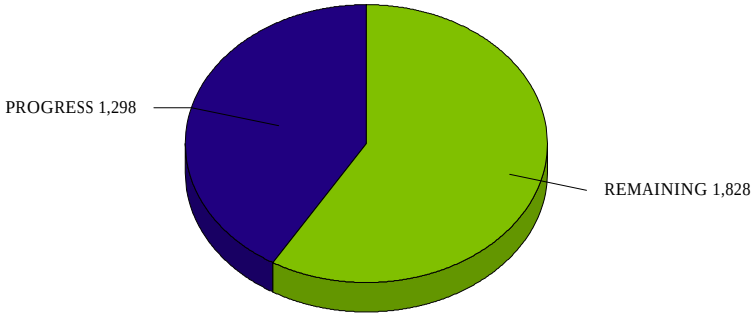
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Enhanced Stormwater Management

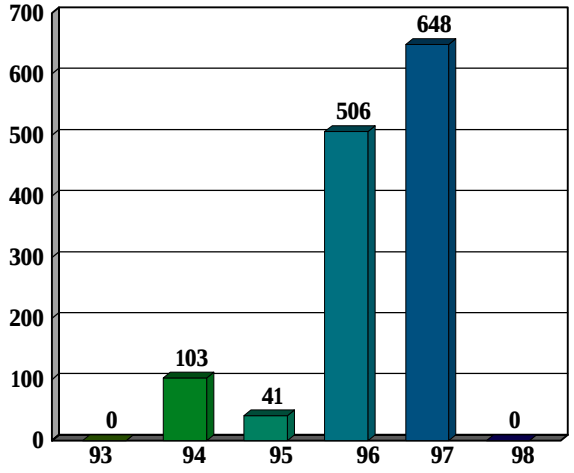
TS Goal: 3,126 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



1998 Progress for Enhanced Stormwater Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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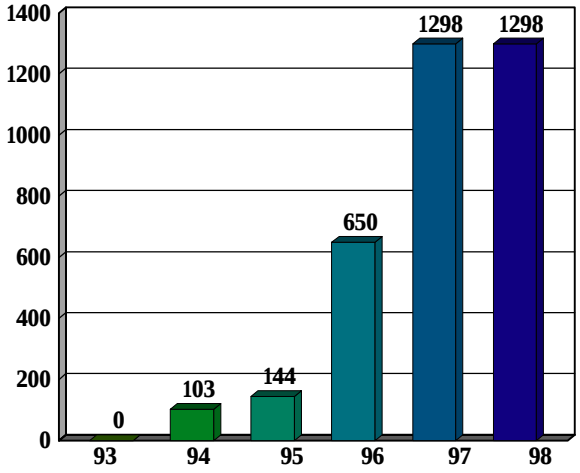


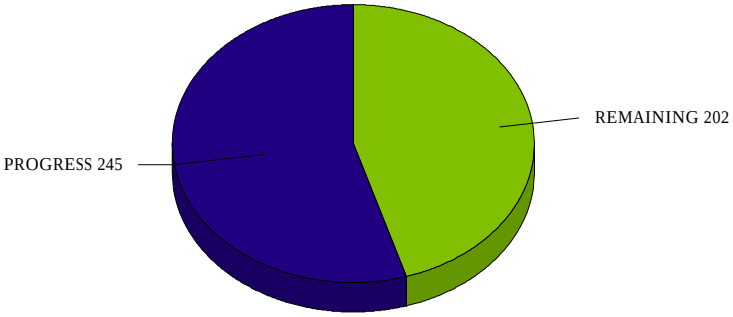
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Erosion and Sediment Control

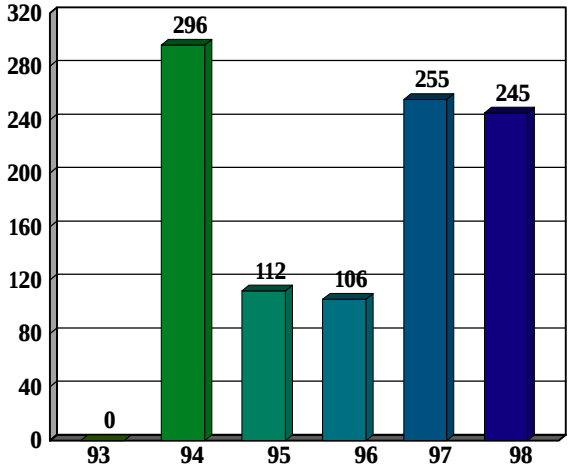
TS Goal: 447 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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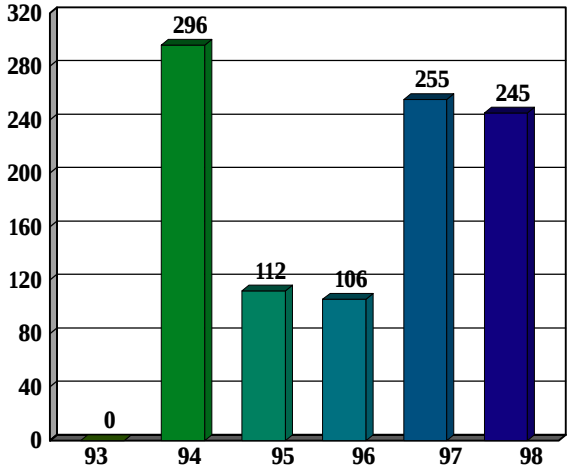


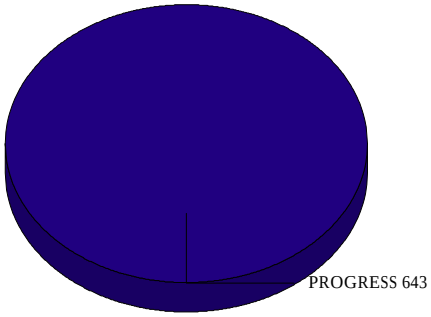
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Septic Connections

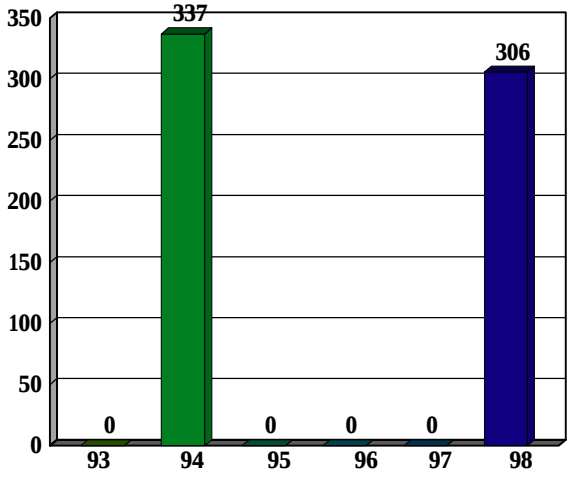
TS Goal: 415 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



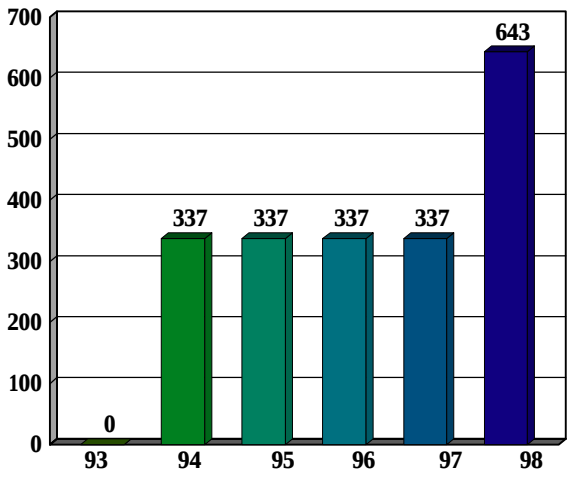
1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Septic Denitrification

TS Goal: 0 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a

1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

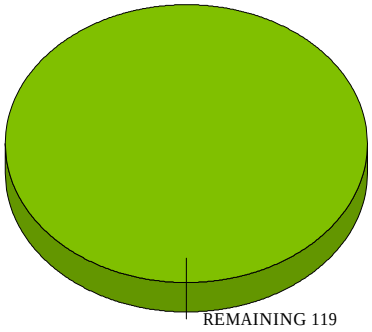
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Septic Pumping

TS Goal: 119 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Stormwater Management Conversion

TS Goal: 211 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low

1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

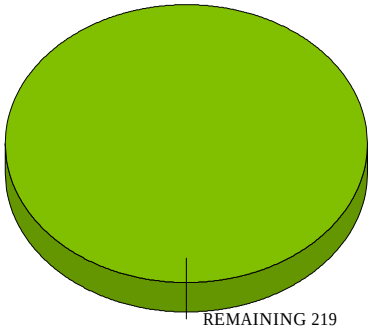
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Stormwater Management Retrofits

TS Goal: 219 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Retrofits
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

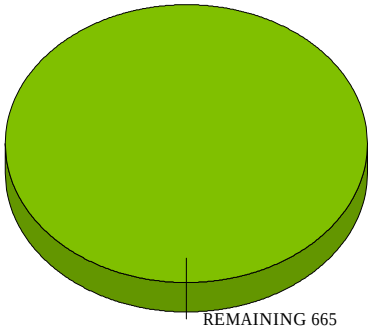
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Eastern Shore

Urban Nutrient Management

TS Goal: 665 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

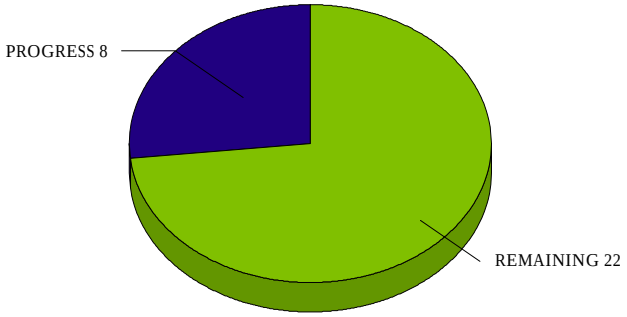
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Animal Waste Management Systems: Livestock

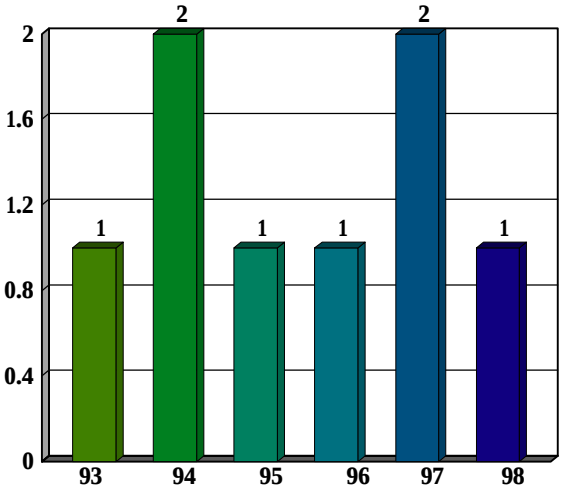
TS Goal: 30 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



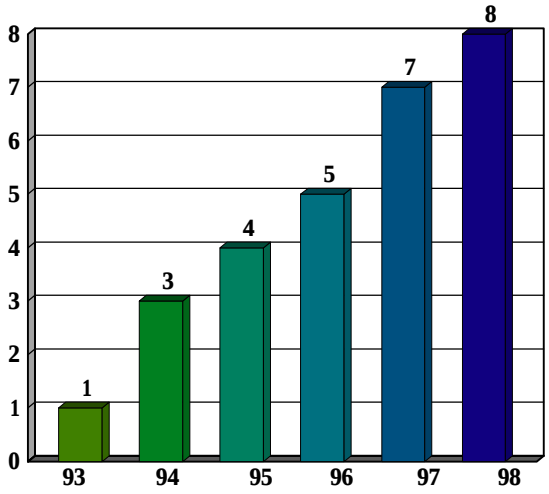
1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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Lower Potomac

Animal Waste Management Systems: Poultry

TS Goal: 0 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

Annual **Cumulative**

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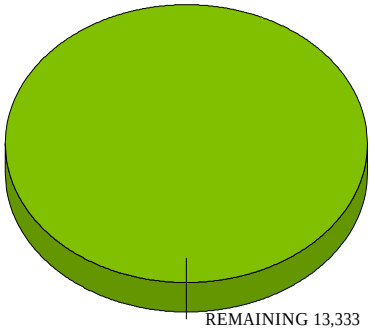
Lower Potomac

Conservation Tillage

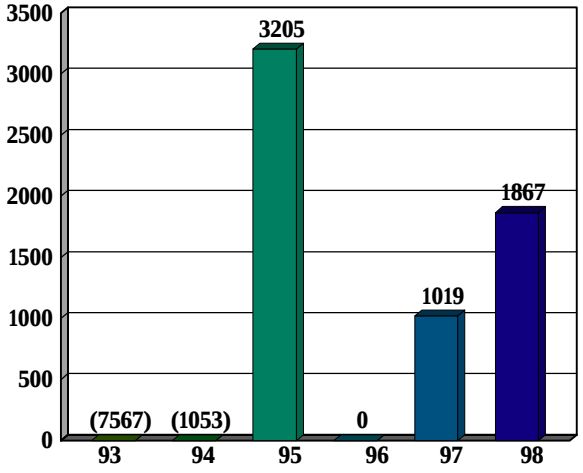
TS Goal: 13,333 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



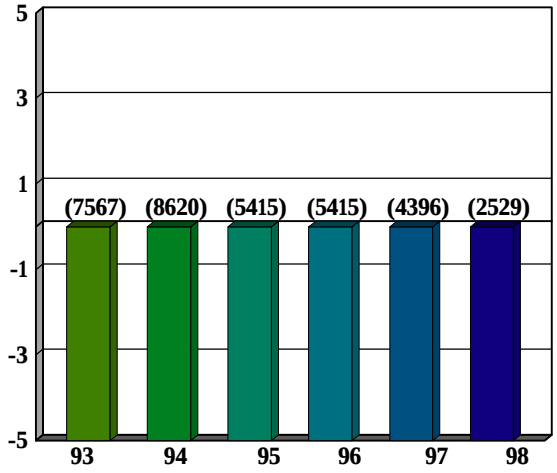
1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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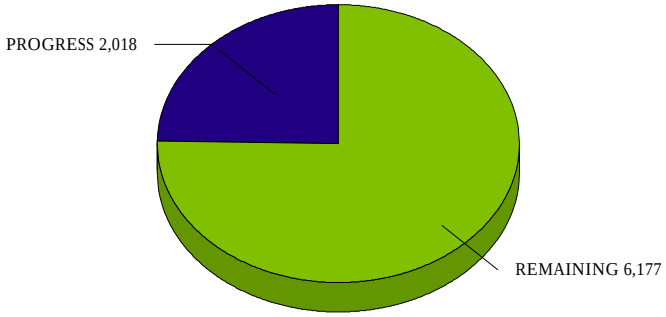
Lower Potomac

Cover Crops

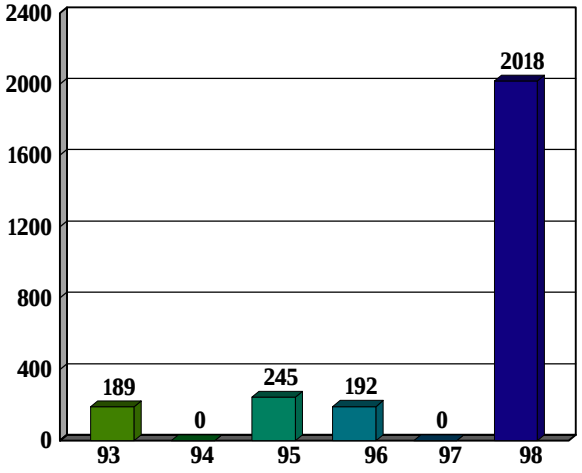
TS Goal: 8,195 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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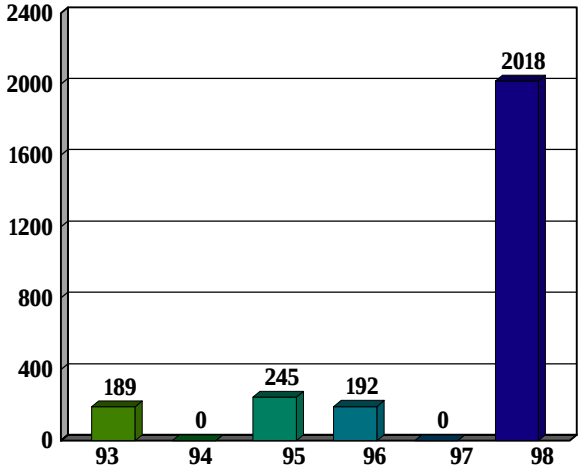


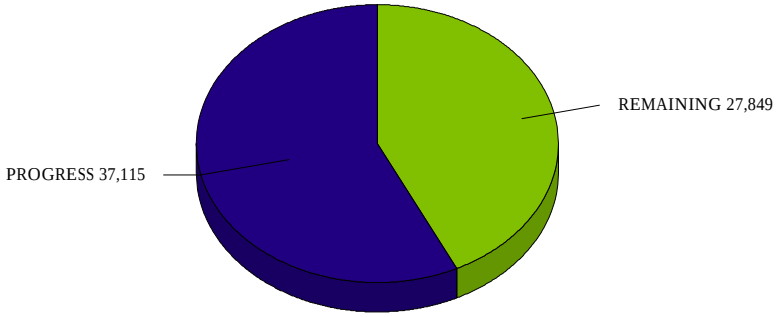
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Nutrient Management Plan Implementation

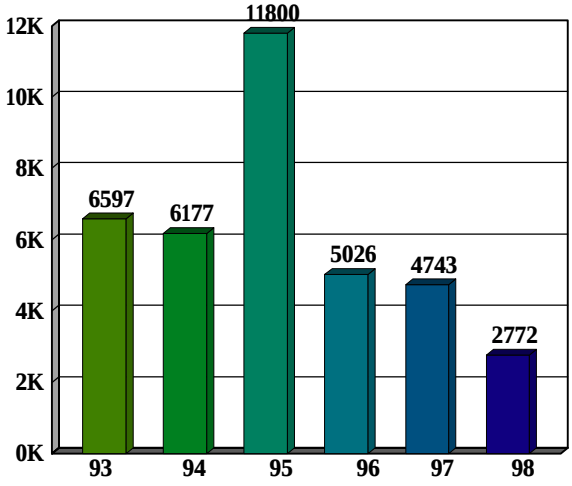
TS Goal: 64,964 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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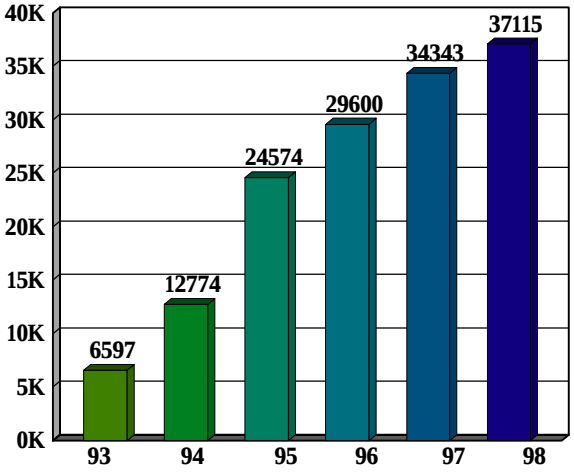


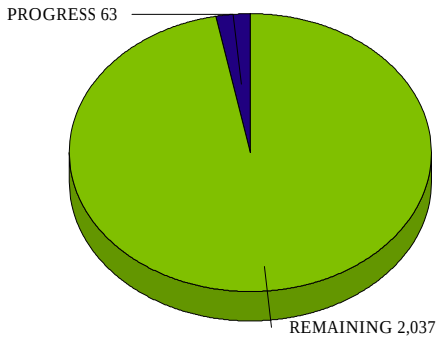
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Retirement of Highly Erodible Land

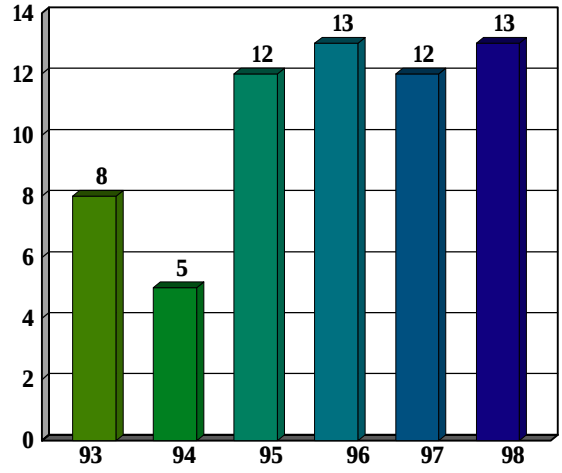
TS Goal: 2,100 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



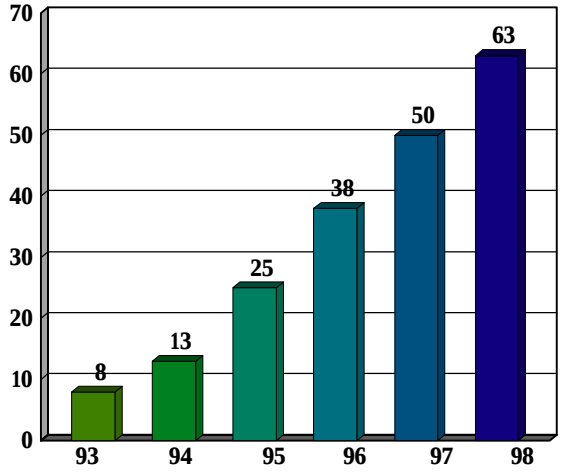
1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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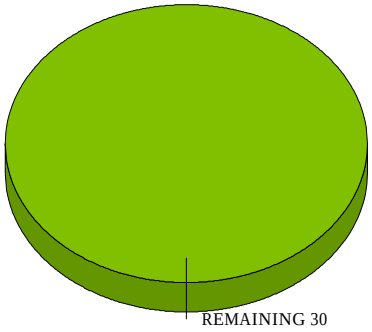
Lower Potomac

Runoff Control

TS Goal: 30 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

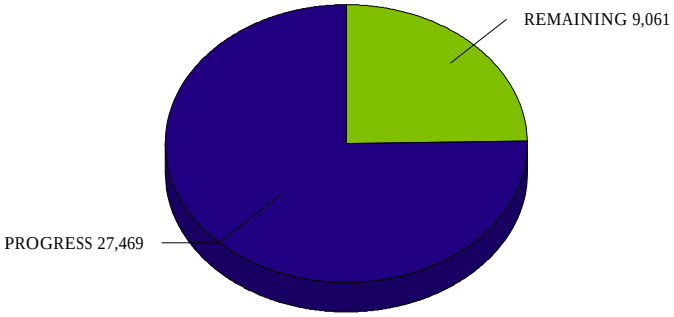
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

SCWQP Implementation and Treatment of Highly Erodible Land

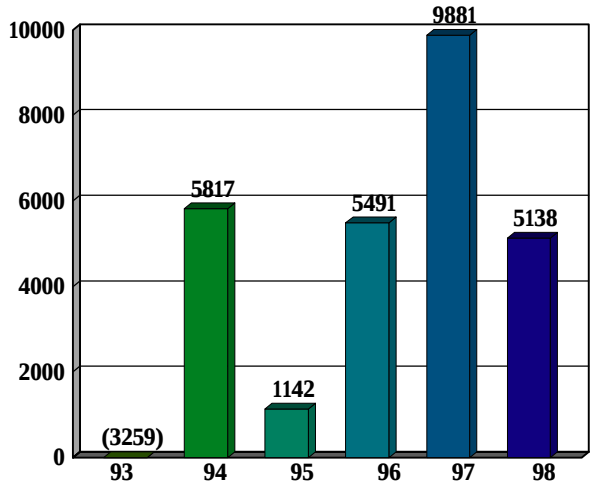
TS Goal: 36,530 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



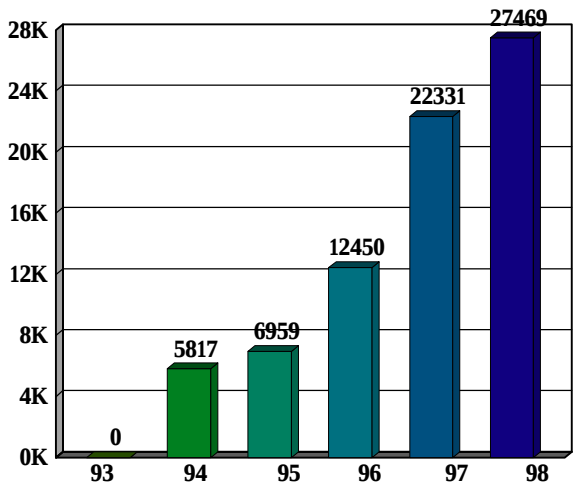
1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



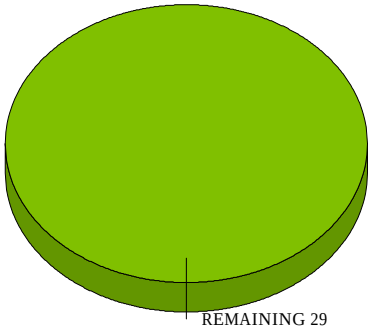
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Stream Protection with Fencing

TS Goal: 29 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

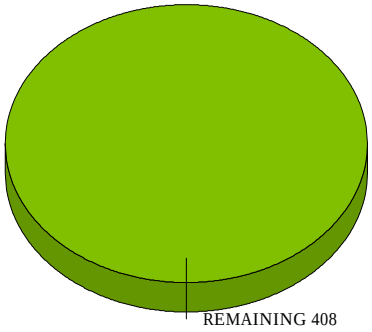
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Stream Protection without Fencing

TS Goal: 408 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection without Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

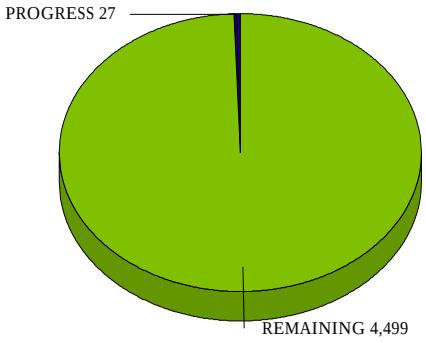
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Forest Conservation

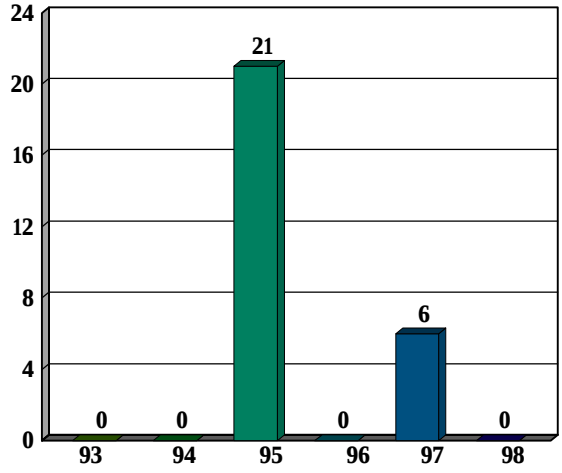
TS Goal: 4,526 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



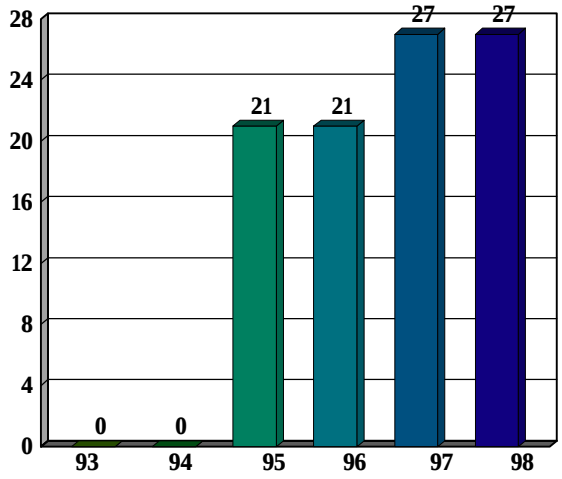
1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



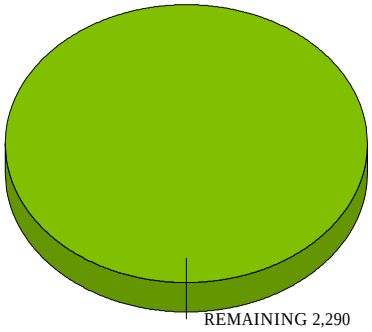
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Forest Harvesting Practices

TS Goal: 2,290 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

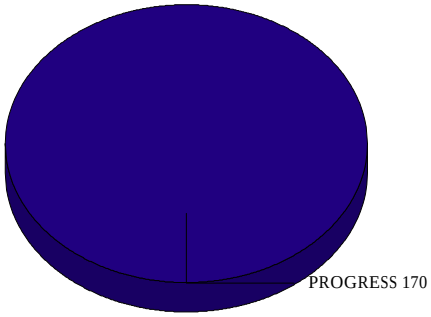
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Forested Buffers

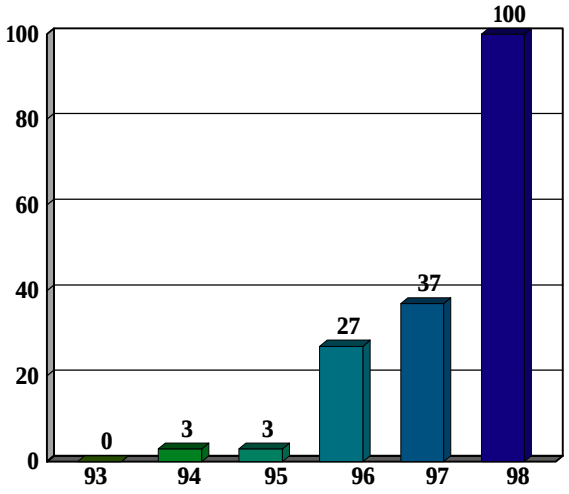
TS Goal: 18 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



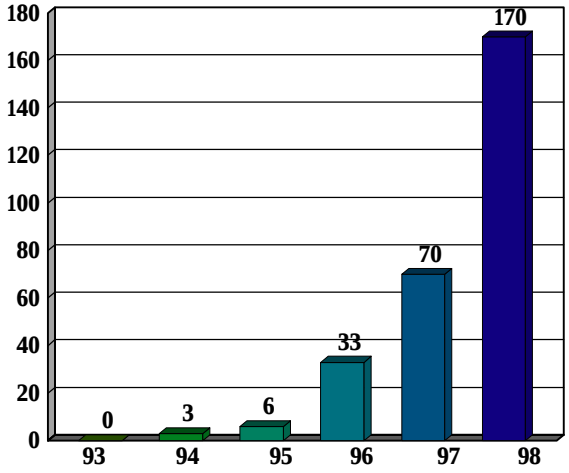
1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



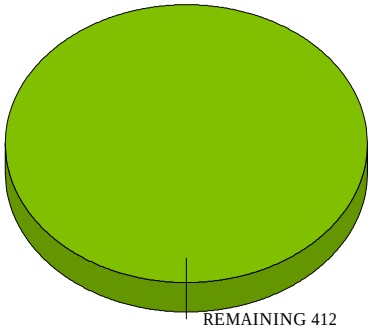
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Grassed Buffers

TS Goal: 412 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

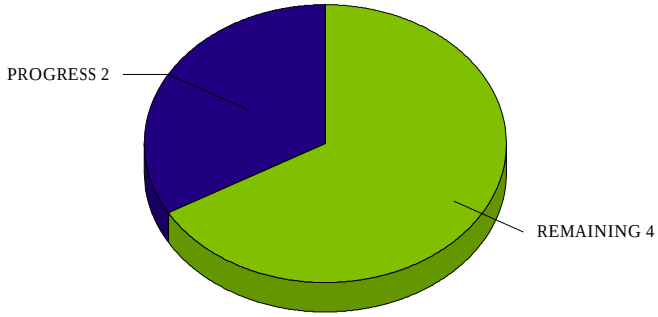
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

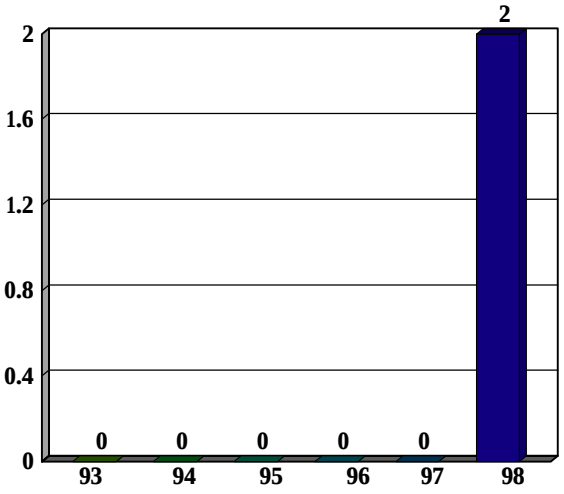
Marine Pumpouts (installation)

TS Goal: 6 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

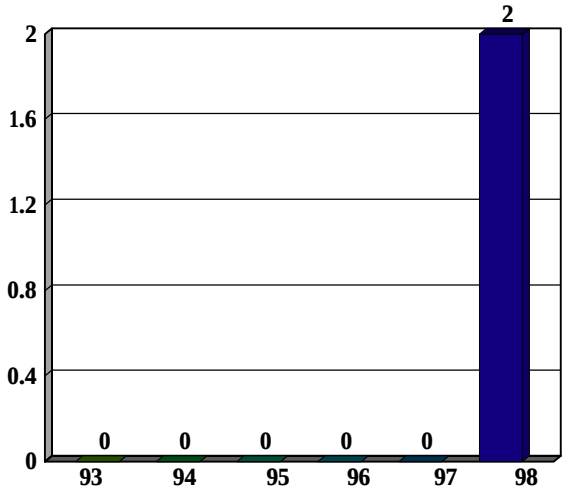


1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record
(marinas)



Annual



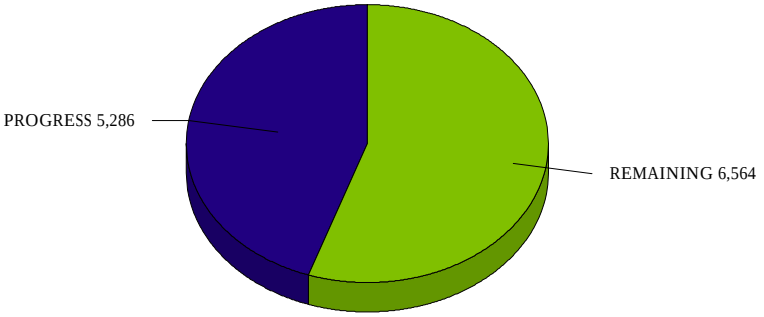
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

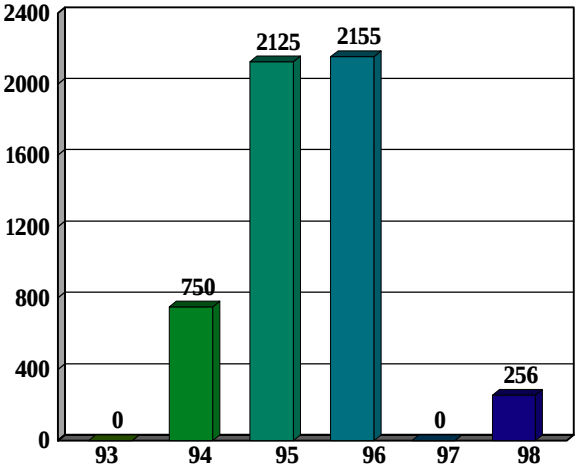
Nonstructural Shore Erosion Control

TS Goal: 11,850 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

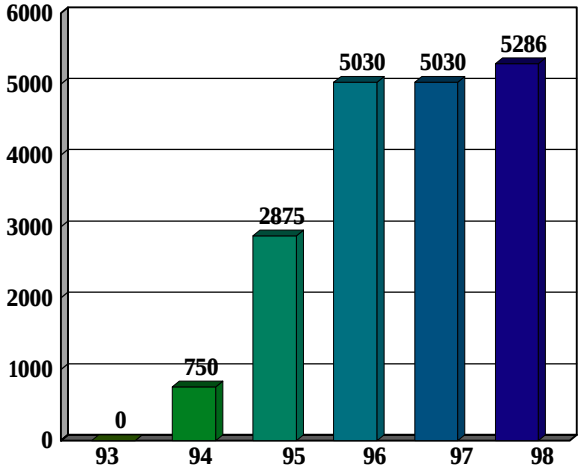


1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record
(linear feet)



Annual



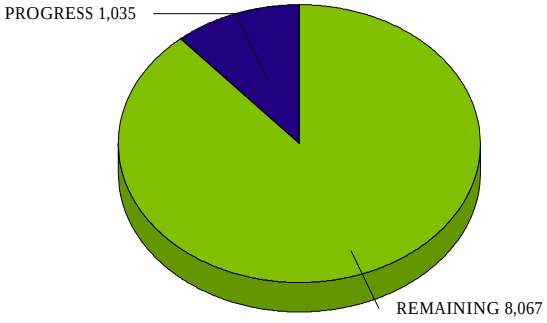
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Structural Shore Erosion Control

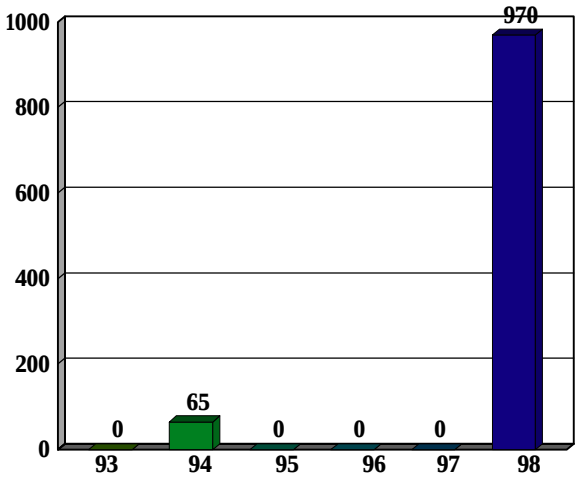
TS Goal: 9,102 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



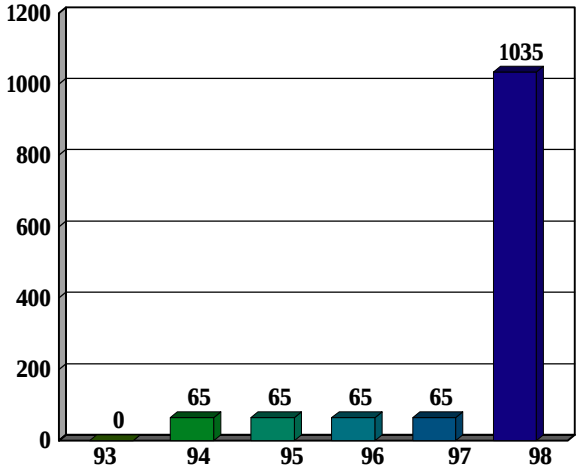
1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



Annual



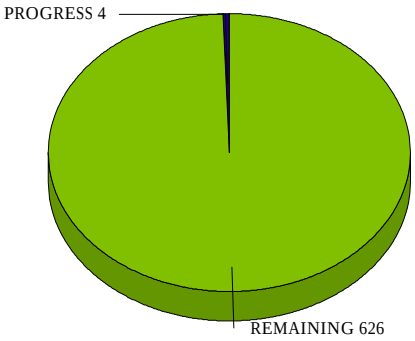
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Tree Planting

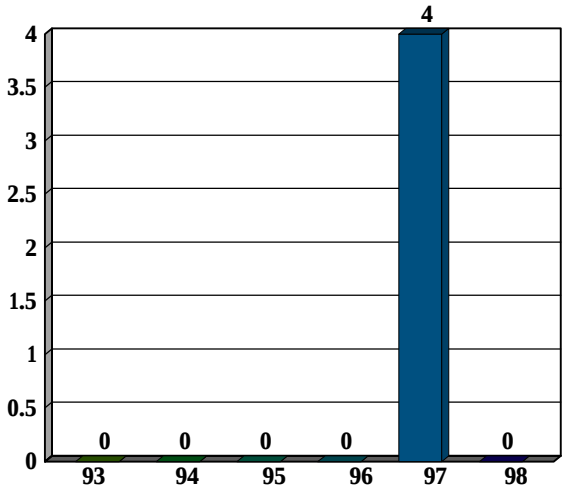
TS Goal: 630 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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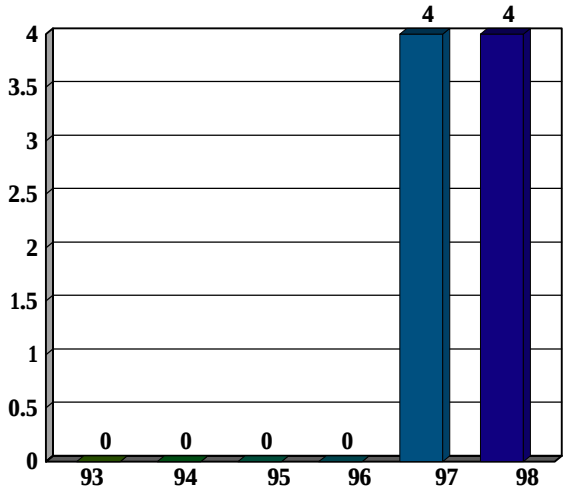

Cumulative

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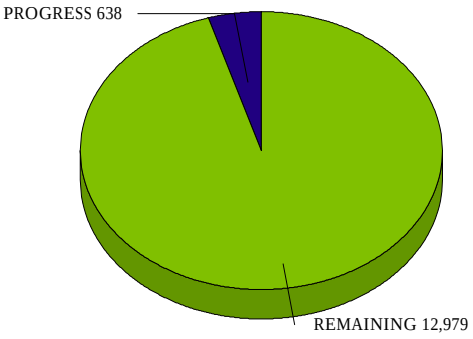
Lower Potomac

Enhanced Stormwater Management

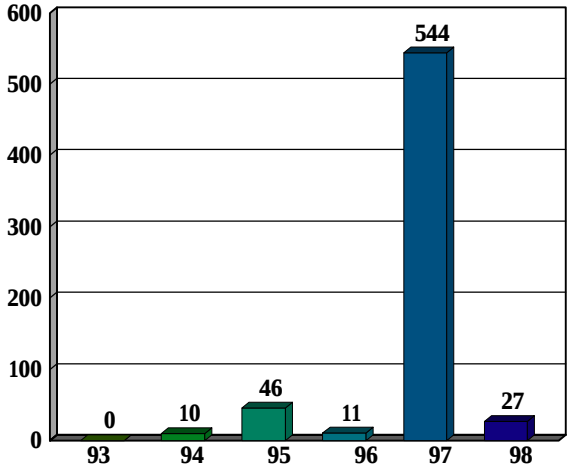
TS Goal: 13,617 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



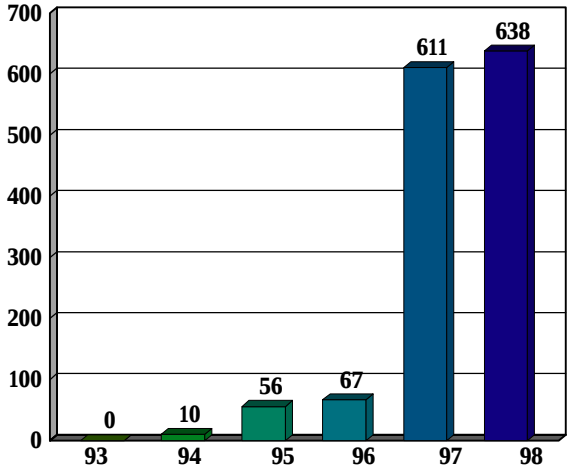
1998 Progress for Enhanced Stormwater Management (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



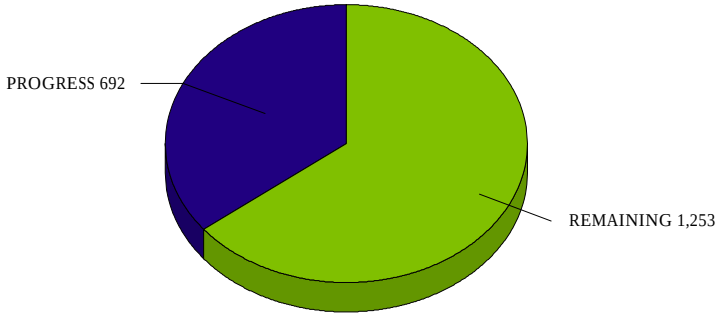
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Erosion and Sediment Control

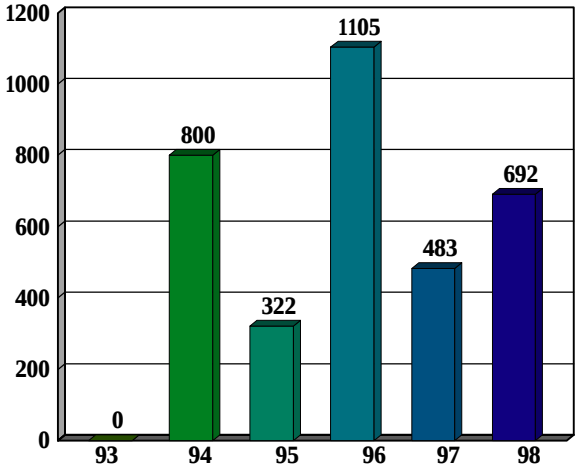
TS Goal: 1,945 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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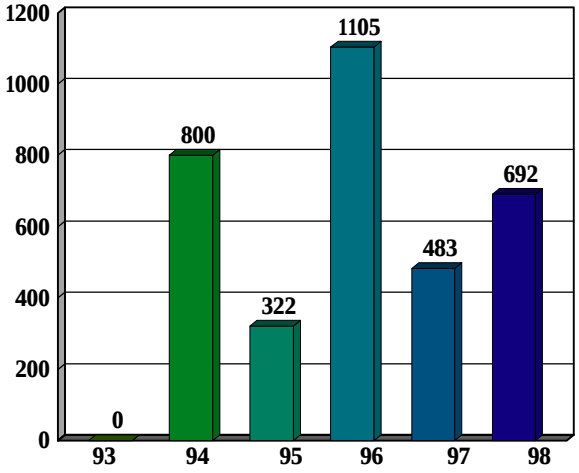


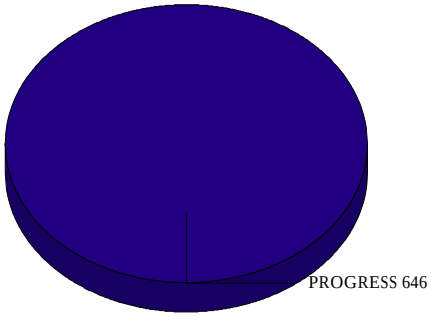
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Septic Connections

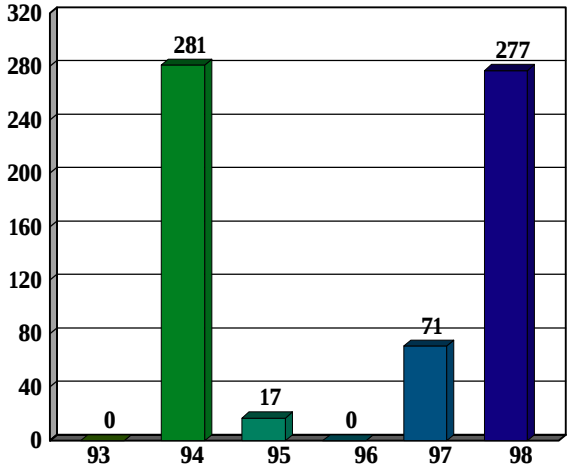
TS Goal: 64 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



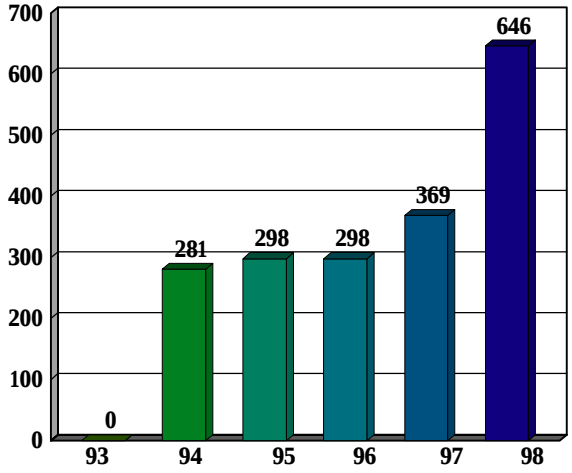
1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Septic Denitrification

TS Goal: 0 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a

1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

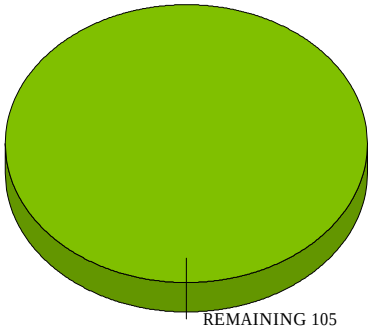
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Septic Pumping

TS Goal: 105 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

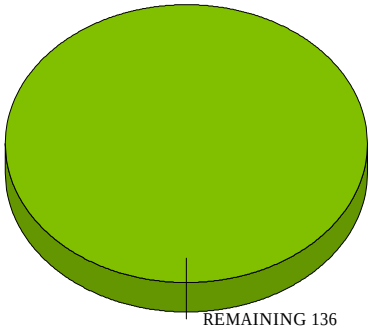
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Stormwater Management Conversion

TS Goal: 136 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

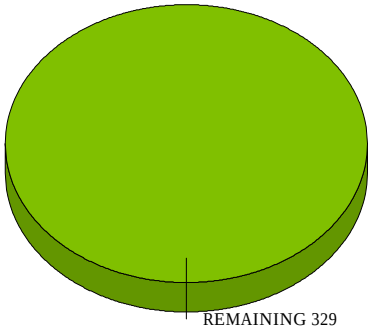
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Stormwater Management Retrofits

TS Goal: 329 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Retrofits
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

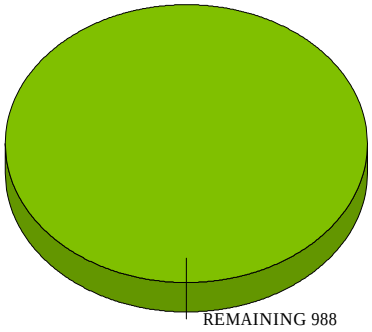
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Potomac

Urban Nutrient Management

TS Goal: 988 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

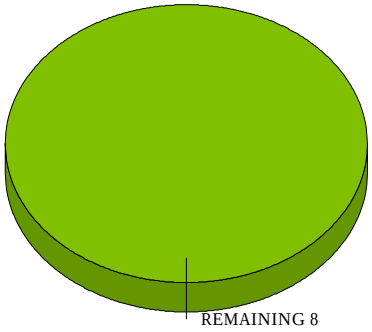
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Animal Waste Management Systems: Livestock

TS Goal: 8 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Animal Waste Management Systems: Poultry

TS Goal: 0 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

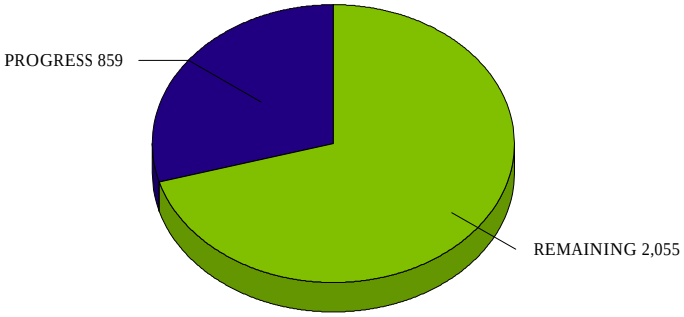
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Conservation Tillage

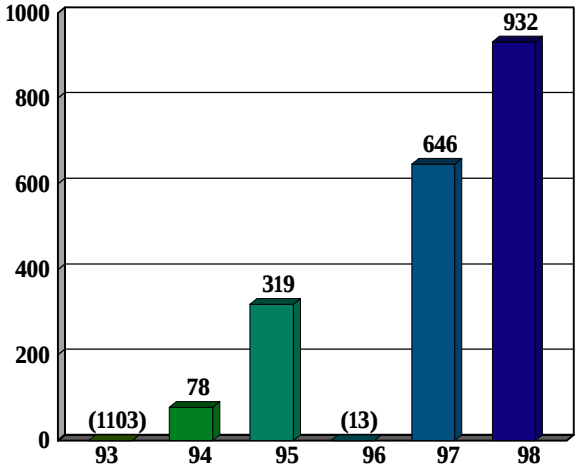
TS Goal: 2,914 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



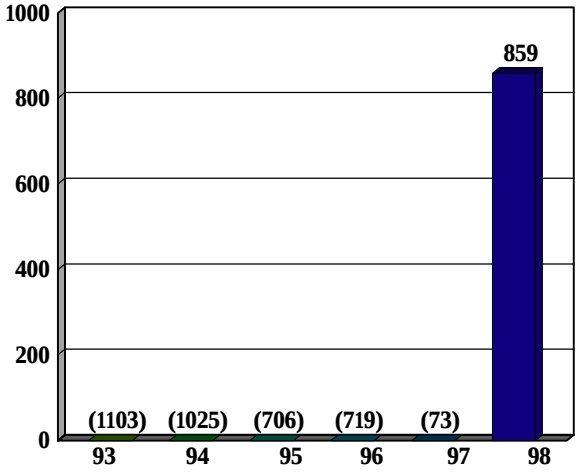
1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



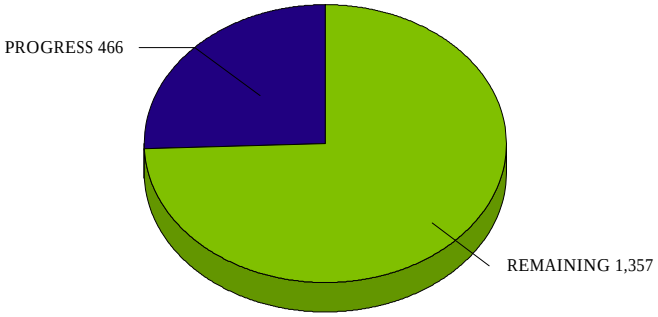
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Cover Crops

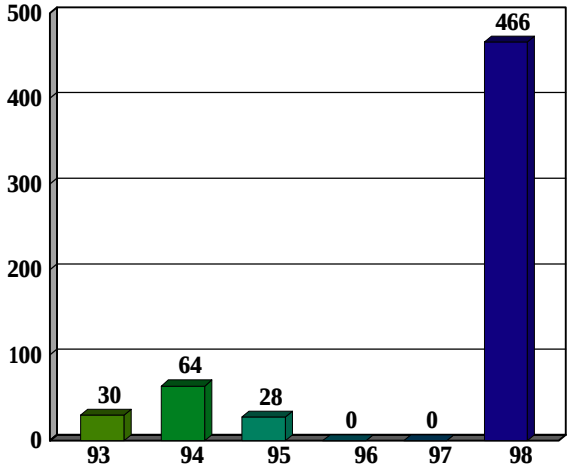
TS Goal: 1,823 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



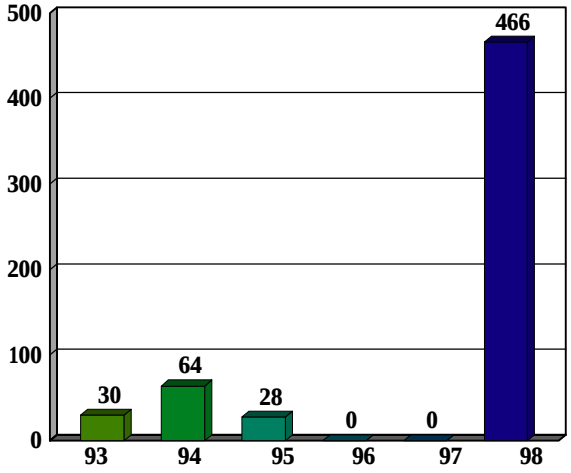
1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



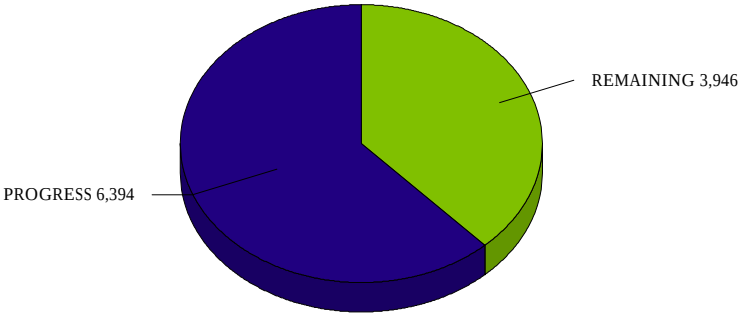
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Nutrient Management Plan Implementation

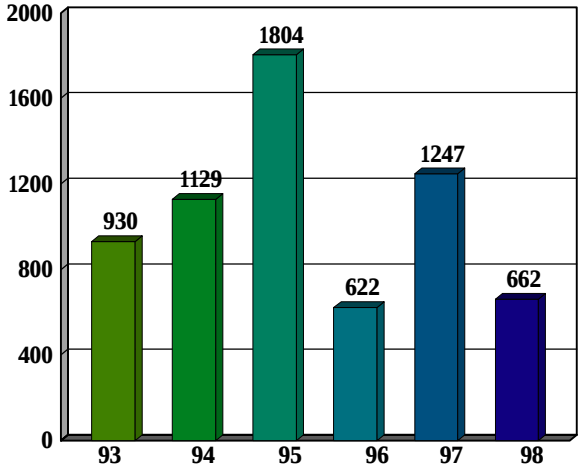
TS Goal: 10,340 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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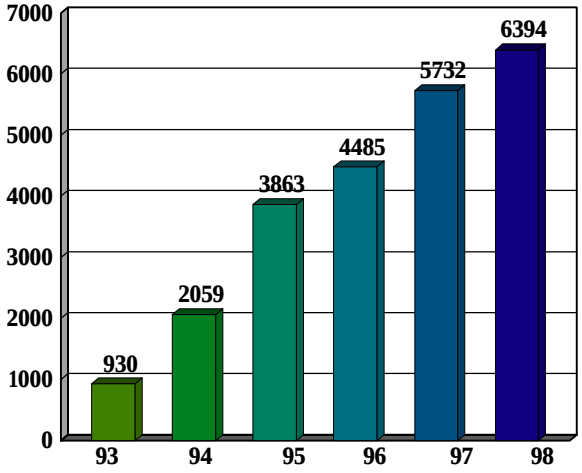

Cumulative

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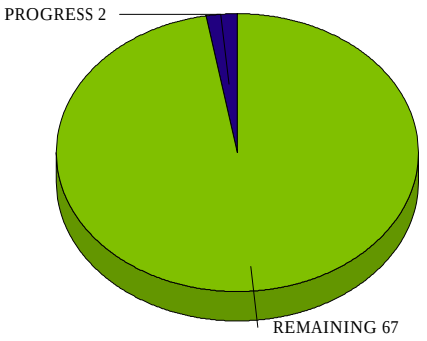
Lower Western Shore

Retirement of Highly Erodible Land

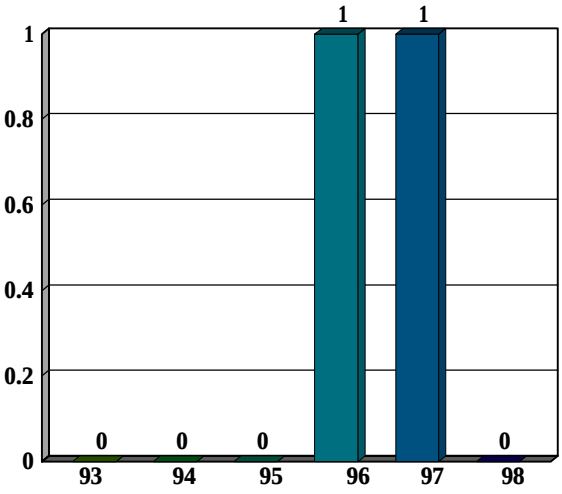
TS Goal: 69 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



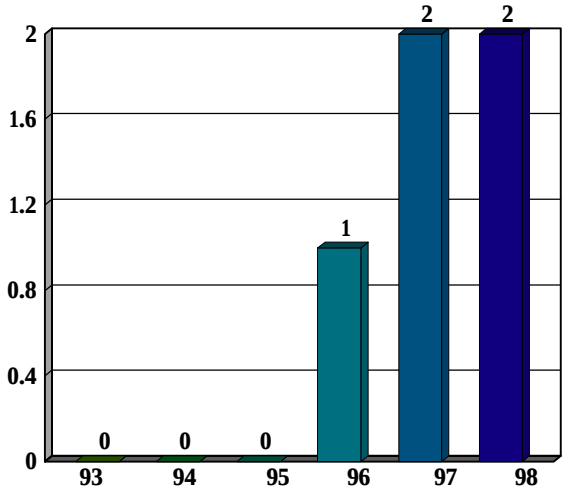
1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



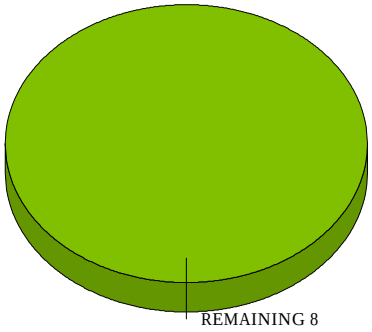
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Runoff Control

TS Goal: 8 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

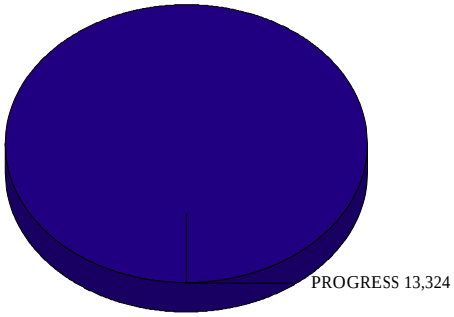
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

SCWQP Implementation and Treatment of Highly Erodible Land

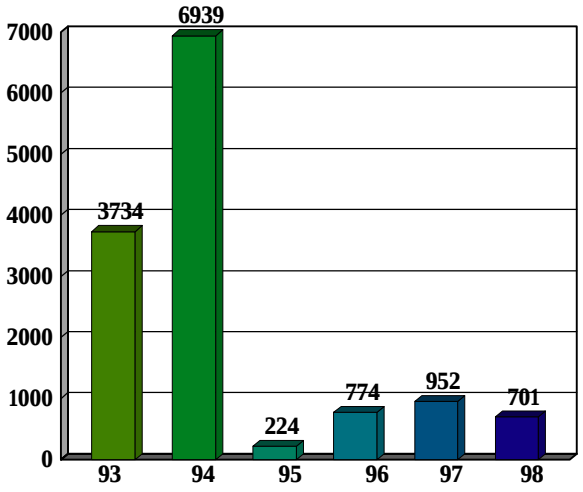
TS Goal: 10,473 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



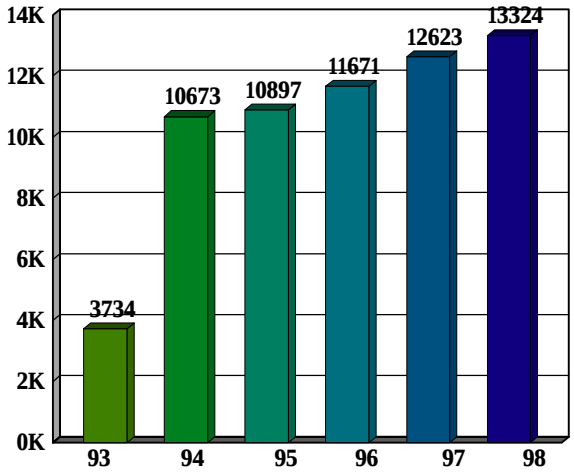
1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



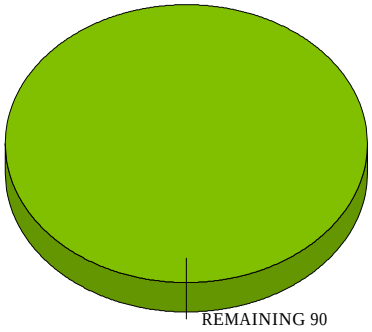
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Stream Protection with Fencing

TS Goal: 90 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

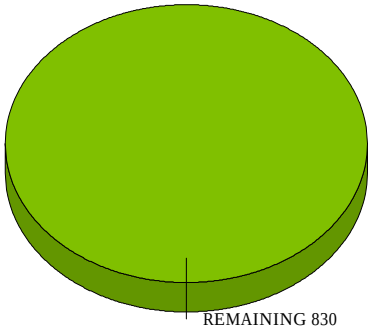
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Stream Protection without Fencing

TS Goal: 830 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection without Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

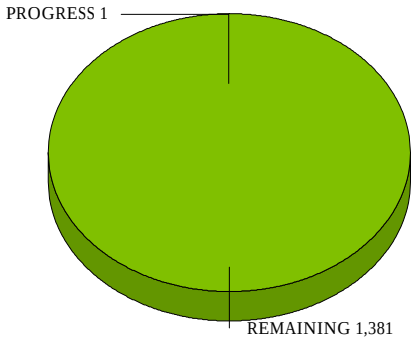
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Forest Conservation

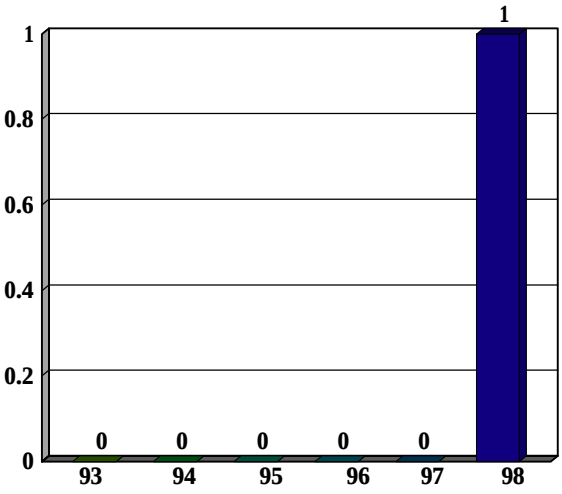
TS Goal: 1,382 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual **Cumulative**

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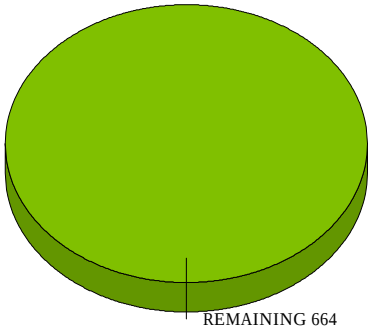
Lower Western Shore

Forest Harvesting Practices

TS Goal: 664 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

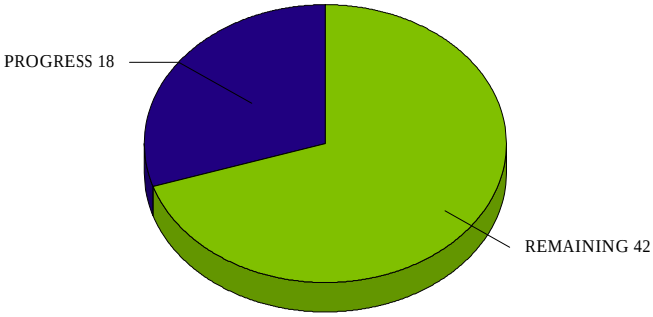
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Forested Buffers

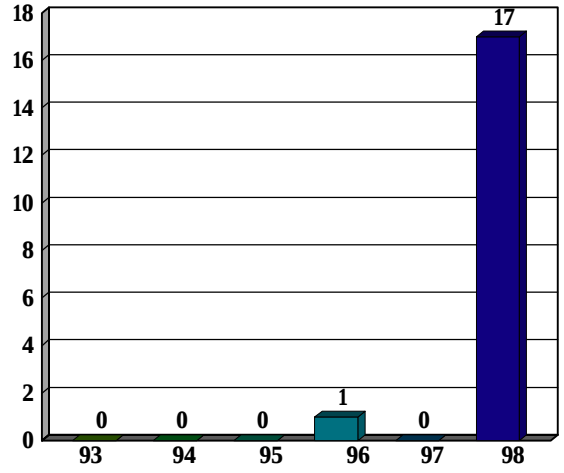
TS Goal: 60 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



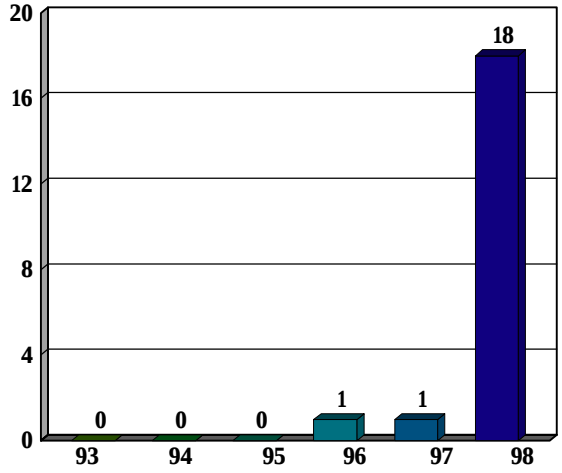
1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



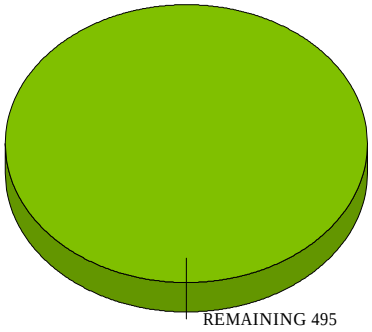
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Grassed Buffers

TS Goal: 495 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

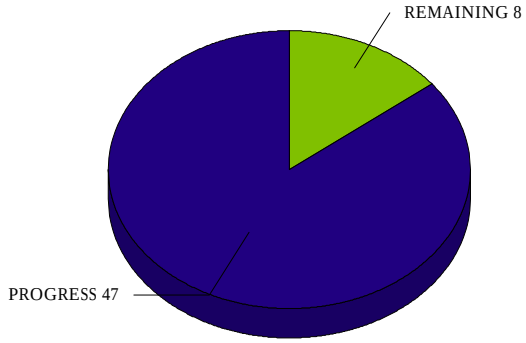
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

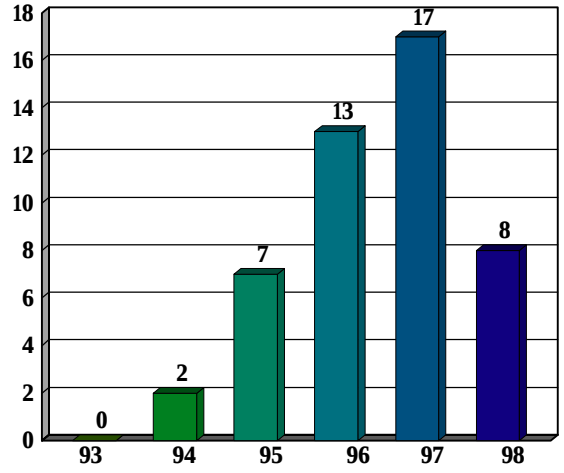
Marine Pumpouts (installation)

TS Goal: 55 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

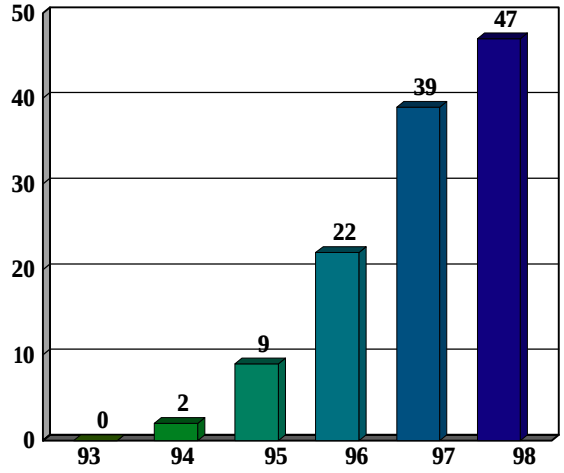


1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record
(marinas)



Annual



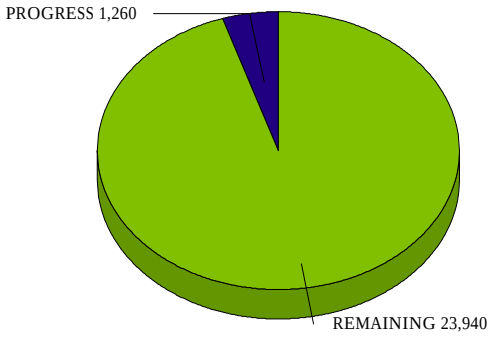
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Lower Western Shore

Nonstructural Shore Erosion Control

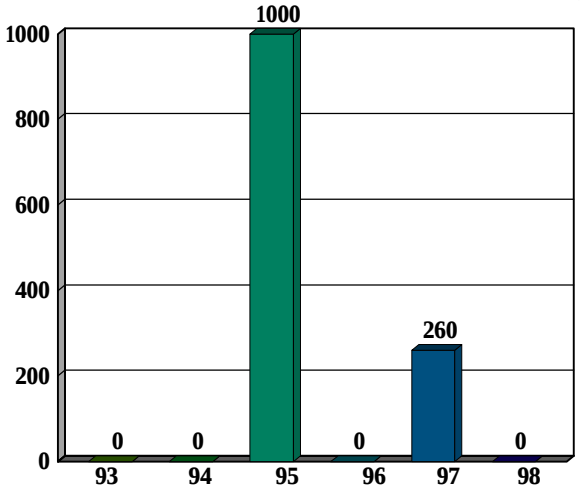
TS Goal: 25,200 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



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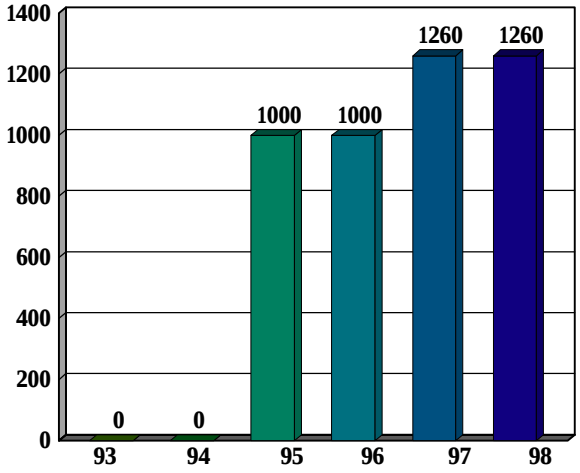

Cumulative

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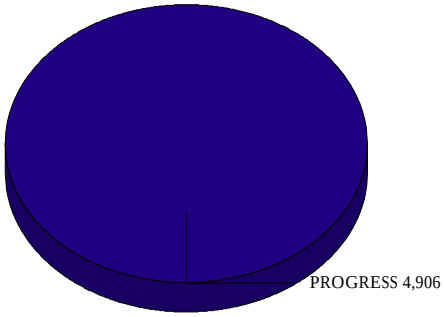
Lower Western Shore

Structural Shore Erosion Control

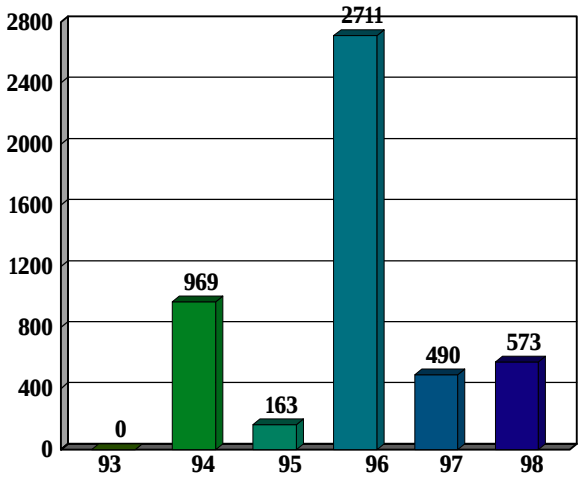
TS Goal: 3,840 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



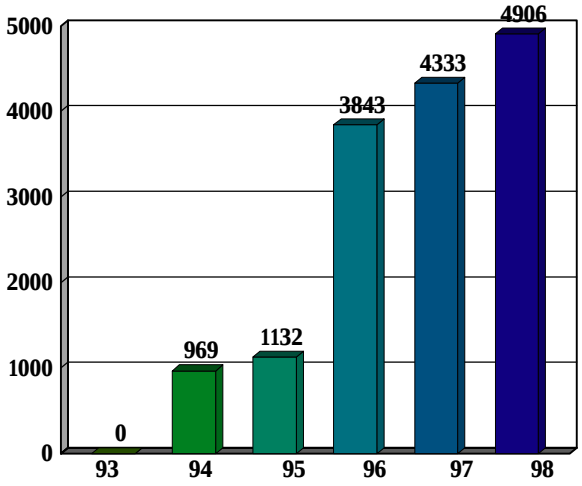
1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



Annual



Cumulative

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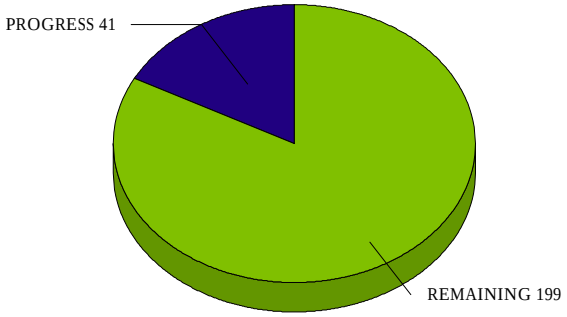
Lower Western Shore

Tree Planting

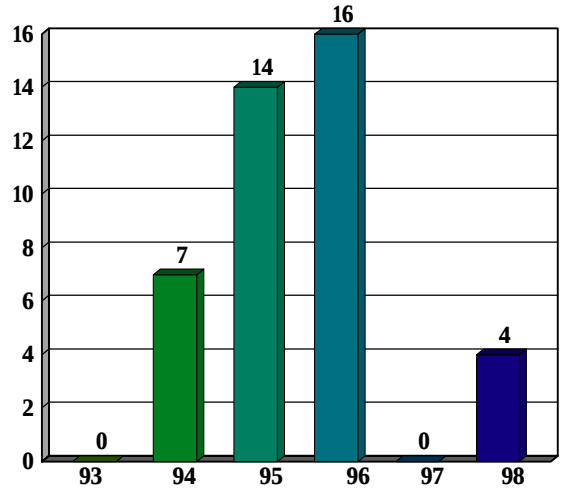
TS Goal: 240 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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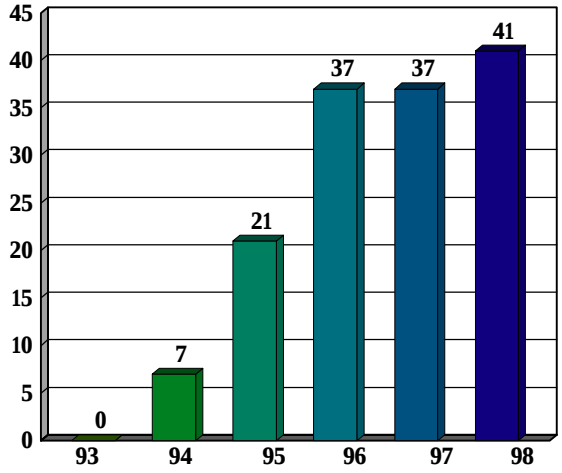

Cumulative

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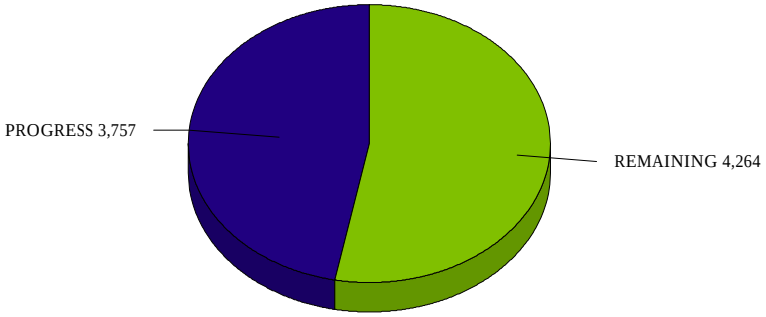
Lower Western Shore

Enhanced Stormwater Management

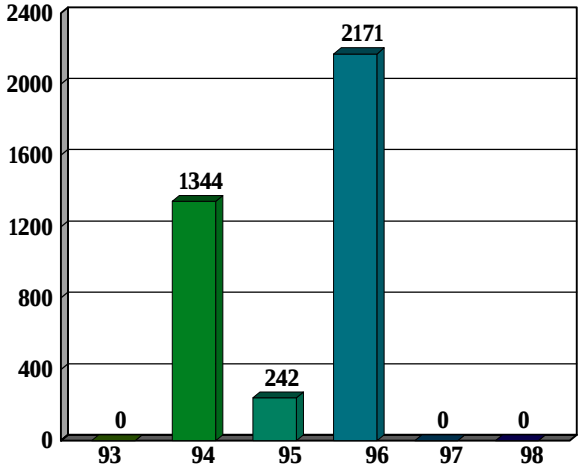
TS Goal: 8,021 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



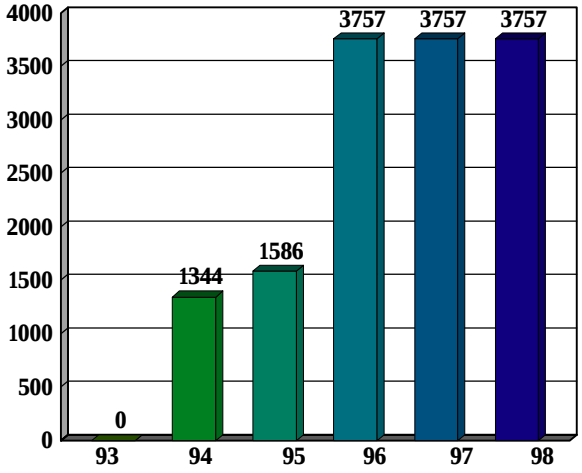
1998 Progress for Enhanced Stormwater Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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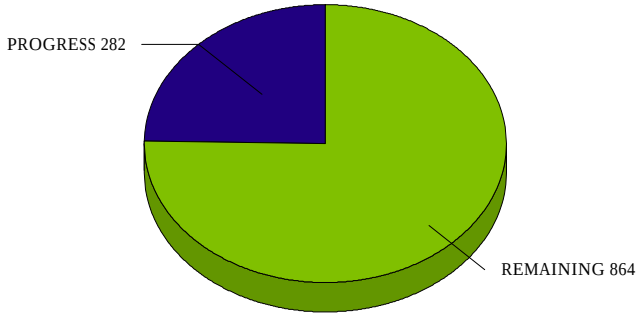
Lower Western Shore

Erosion and Sediment Control

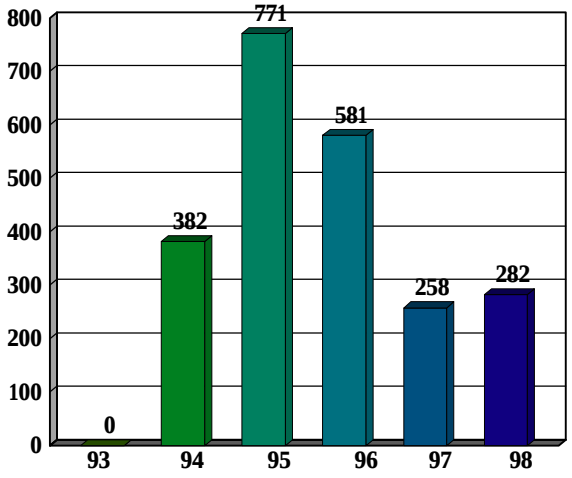
TS Goal: 1,146 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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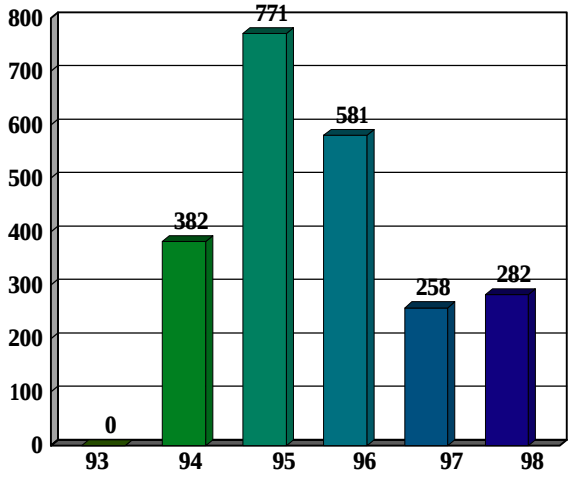

Cumulative

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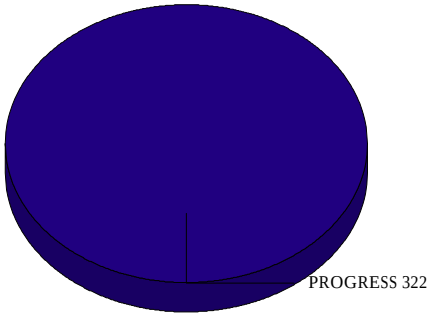
Lower Western Shore

Septic Connections

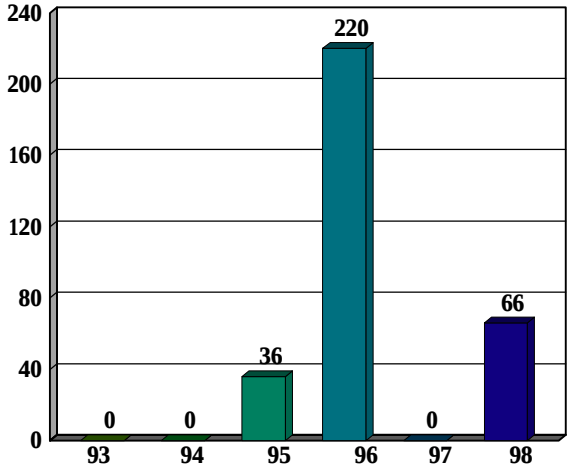
TS Goal: 231 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



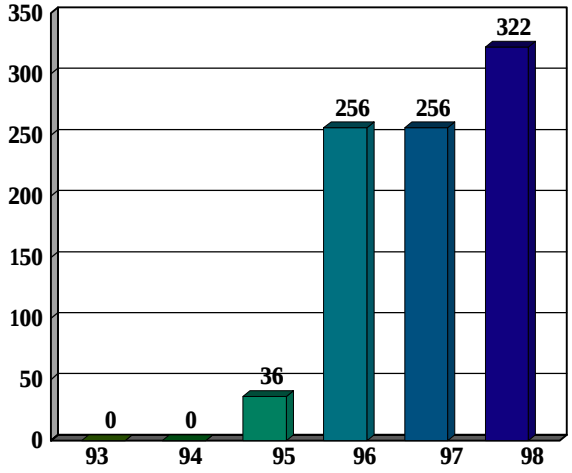
1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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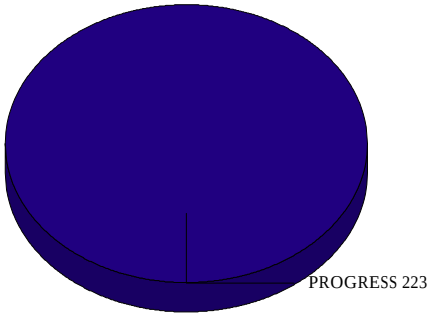
Lower Western Shore

Septic Denitrification

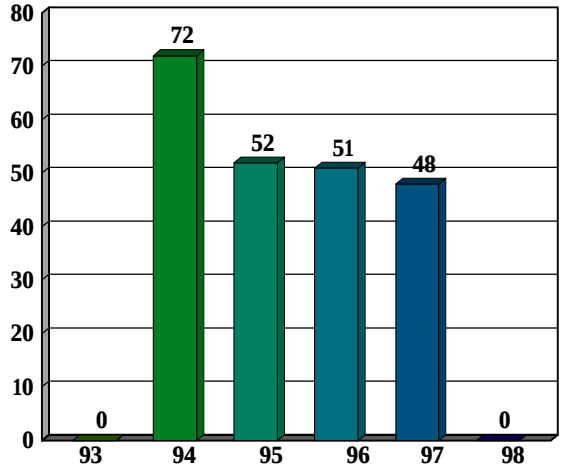
TS Goal: 67 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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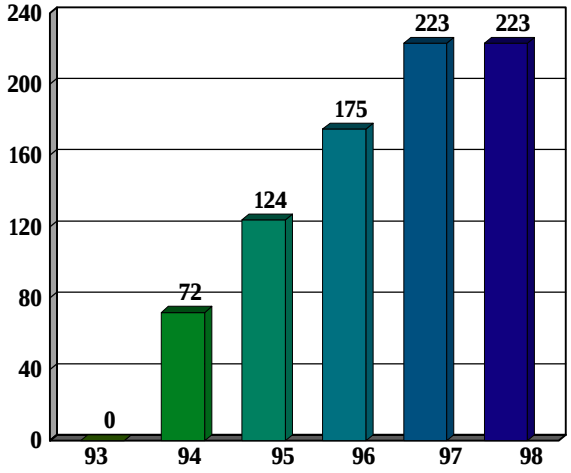

Cumulative

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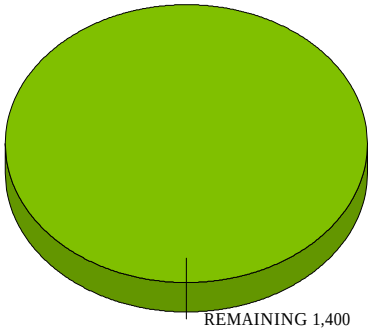
Lower Western Shore

Septic Pumping

TS Goal: 1,400 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

Annual **Cumulative**

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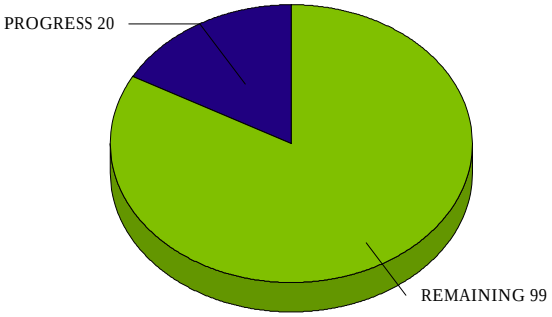
Lower Western Shore

Stormwater Management Conversion

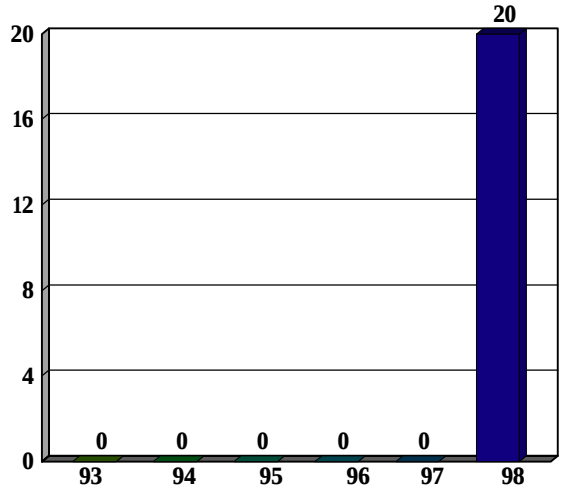
TS Goal: 119 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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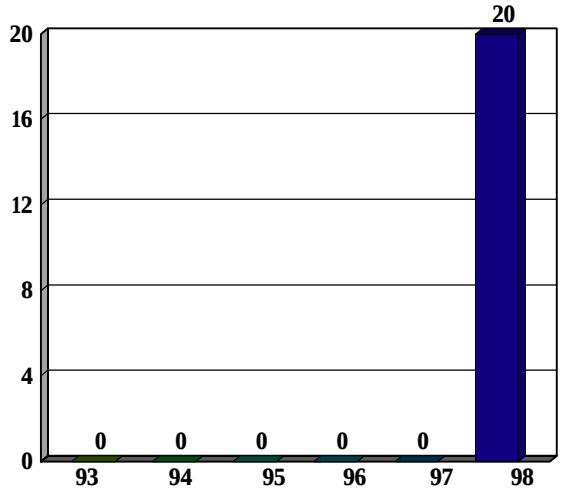

Cumulative

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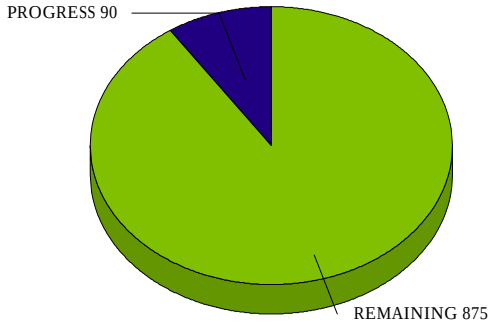
Lower Western Shore

Stormwater Management Retrofits

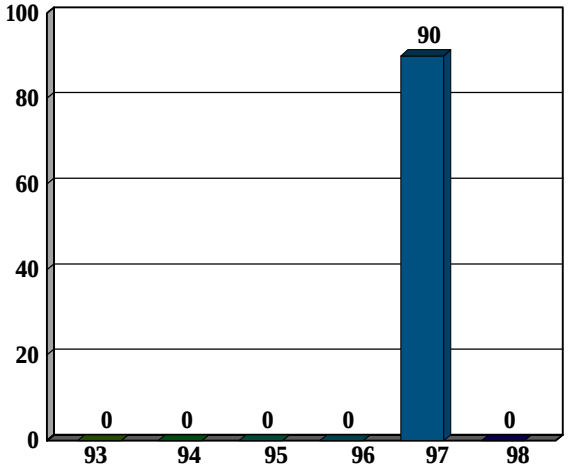
TS Goal: 965 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Retrofits
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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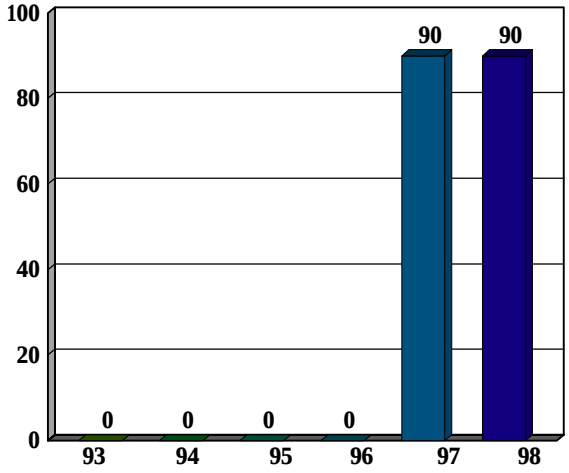

Cumulative

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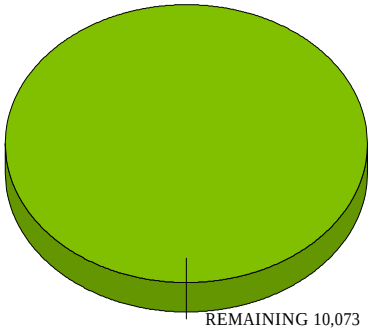
Lower Western Shore

Urban Nutrient Management

TS Goal: 10,073 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

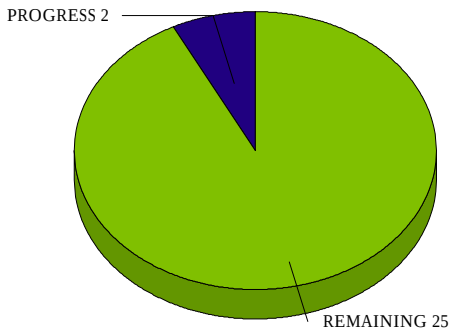
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Animal Waste Management Systems: Livestock

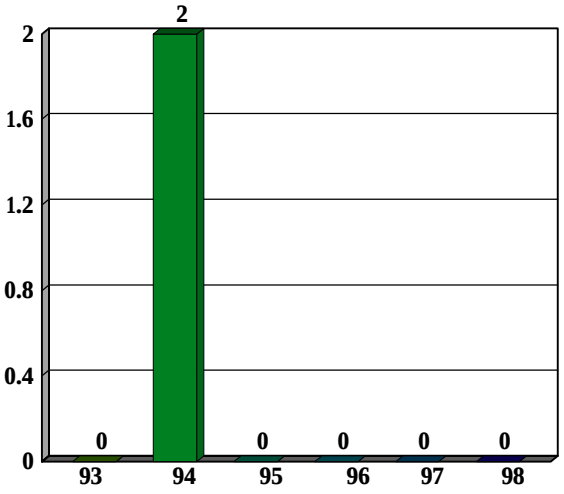
TS Goal: 27 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



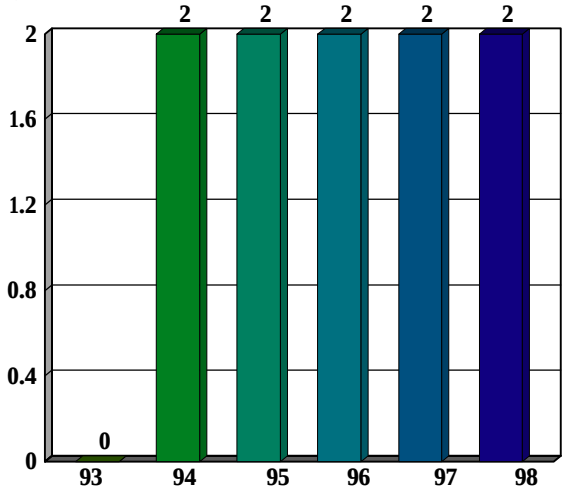
1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Animal Waste Management Systems: Poultry

TS Goal: 0 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

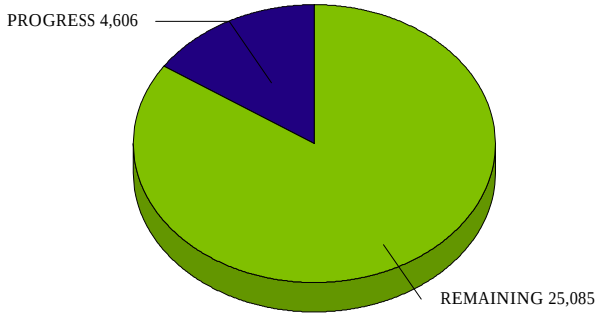
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Conservation Tillage

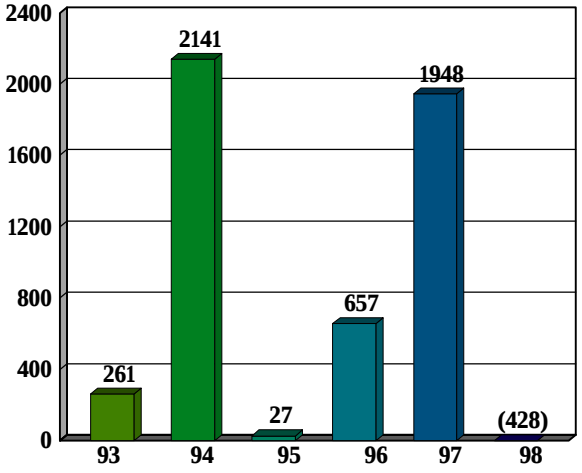
TS Goal: 29,691 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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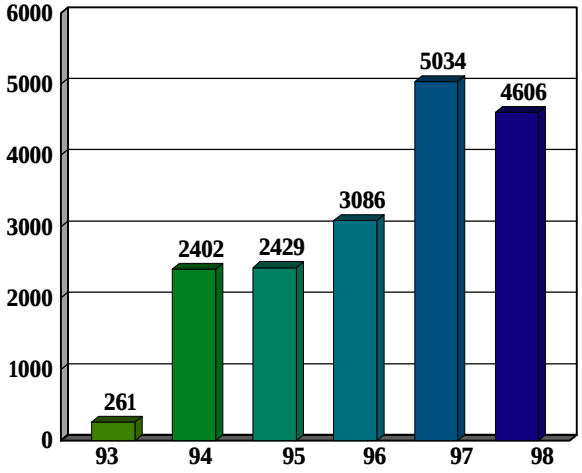

Cumulative

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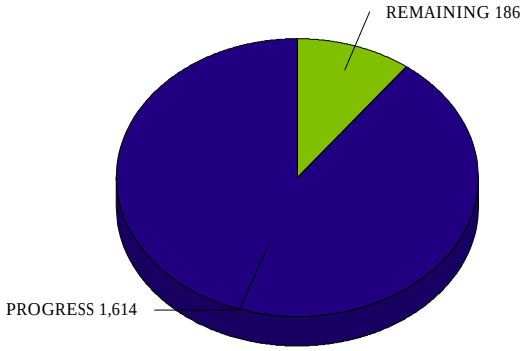
Middle Potomac

Cover Crops

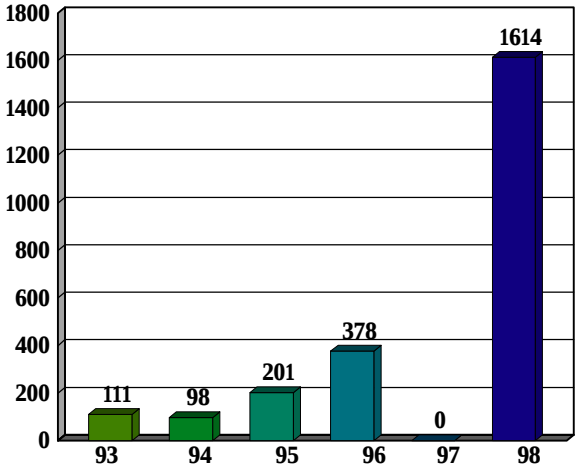
TS Goal: 1,800 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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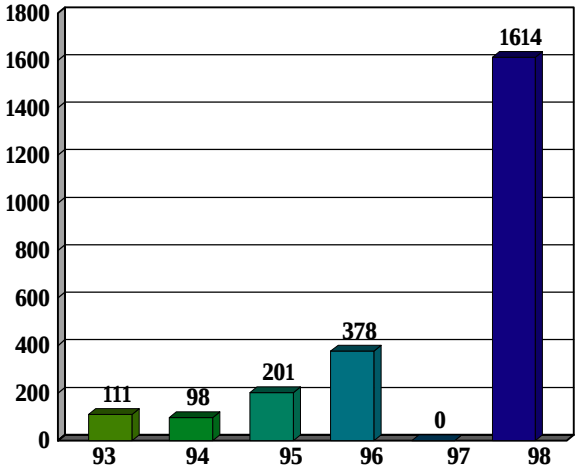

Cumulative

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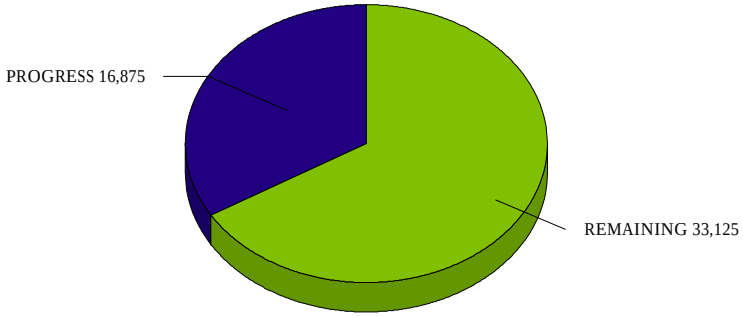
Middle Potomac

Nutrient Management Plan Implementation

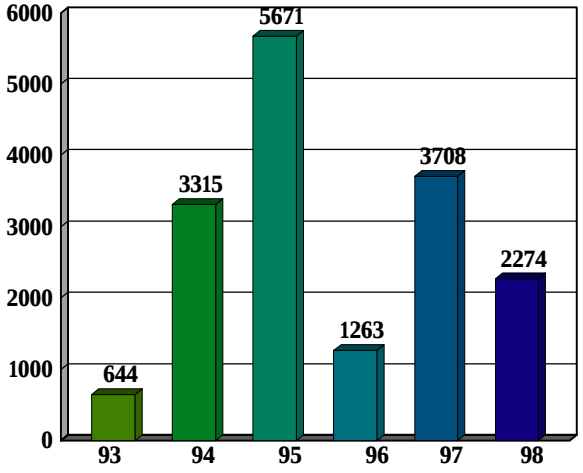
TS Goal: 50,000 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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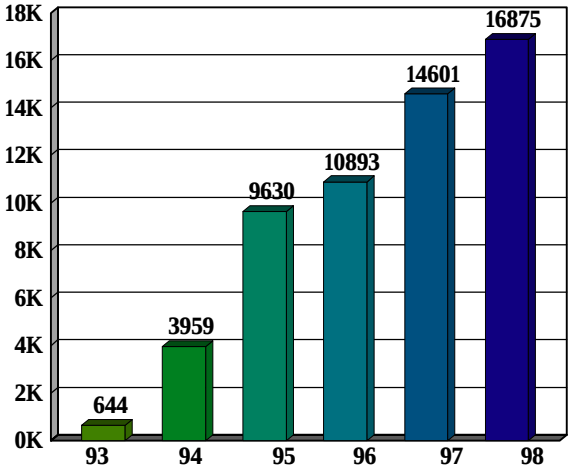

Cumulative

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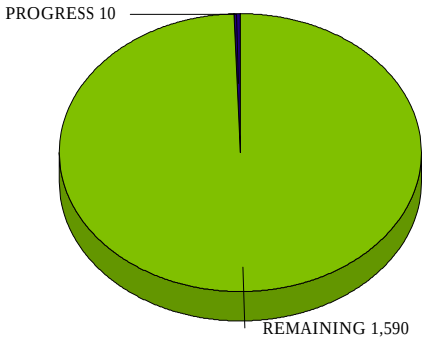
Middle Potomac

Retirement of Highly Erodible Land

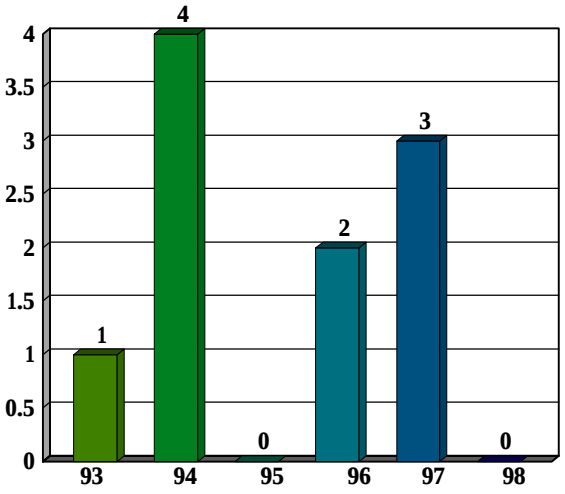
TS Goal: 1,600 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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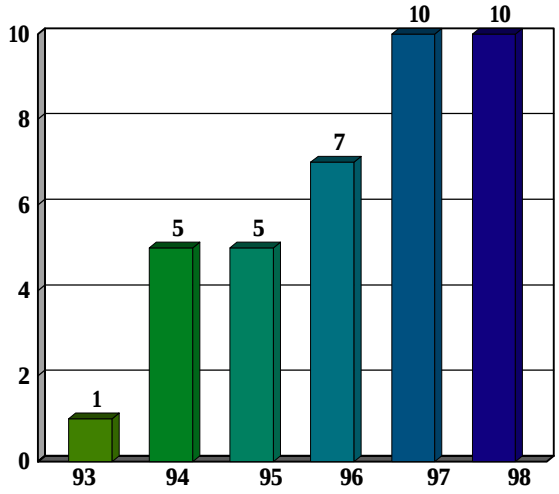

Cumulative

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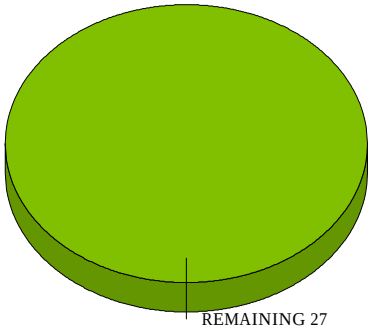
Middle Potomac

Runoff Control

TS Goal: 27 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

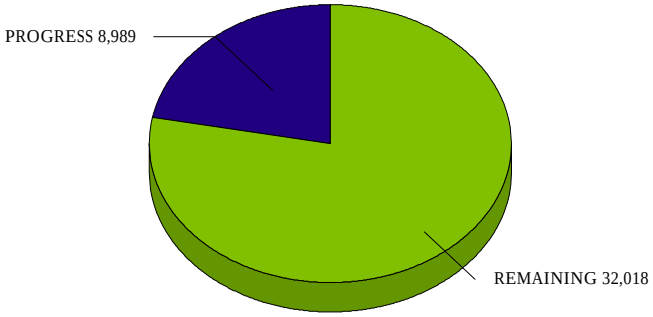
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

SCWQP Implementation and Treatment of Highly Erodible Land

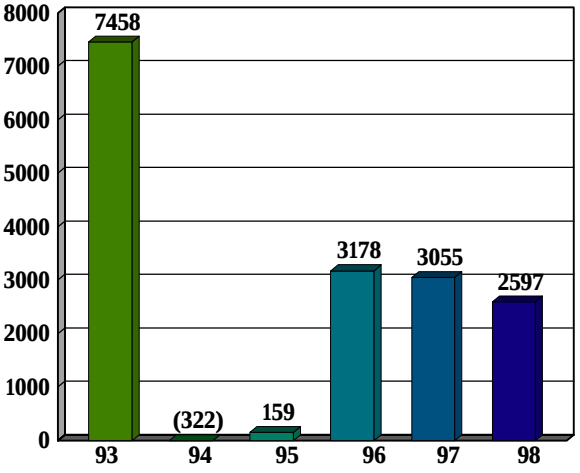
TS Goal: 41,007 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



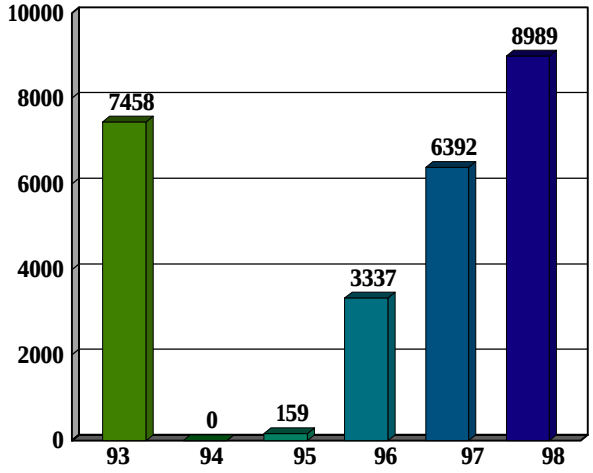
1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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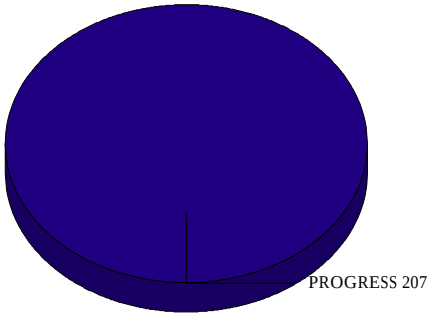
Middle Potomac

Stream Protection with Fencing

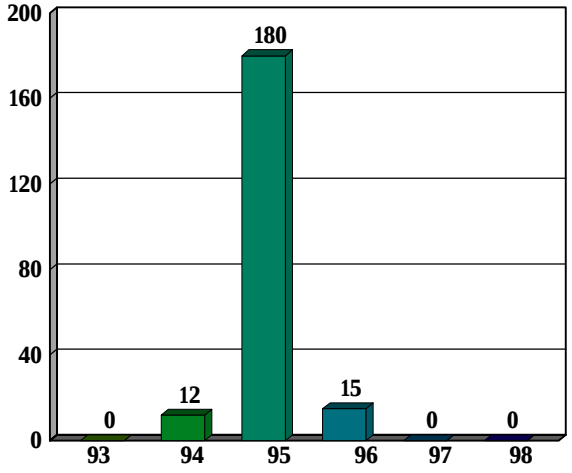
TS Goal: 8 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



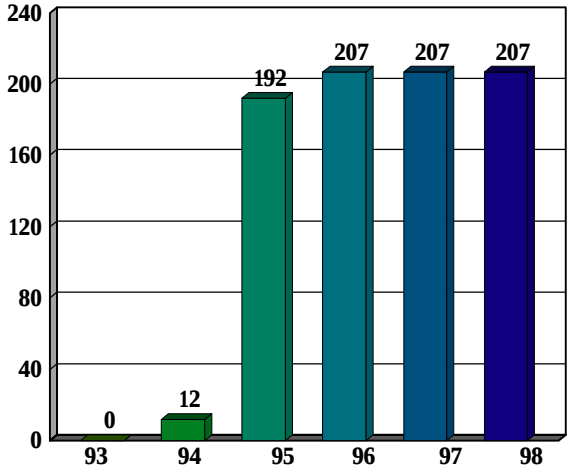
1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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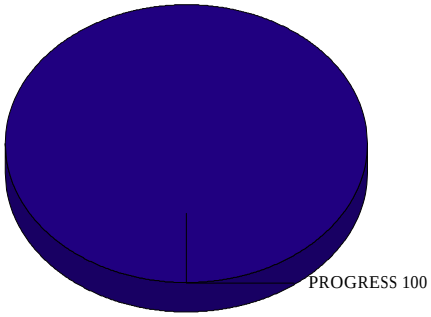
Middle Potomac

Stream Protection without Fencing

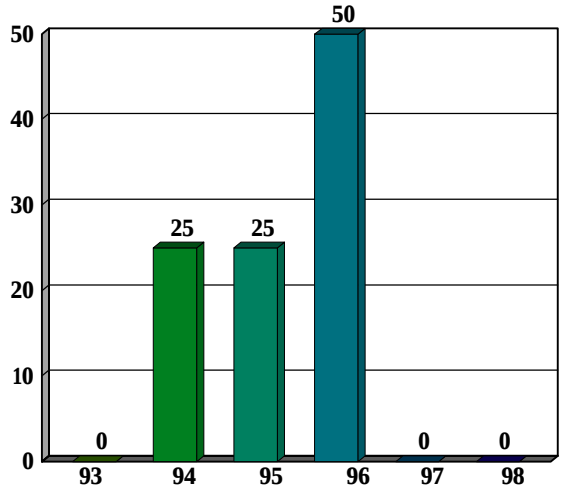
TS Goal: 36 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection without Fencing (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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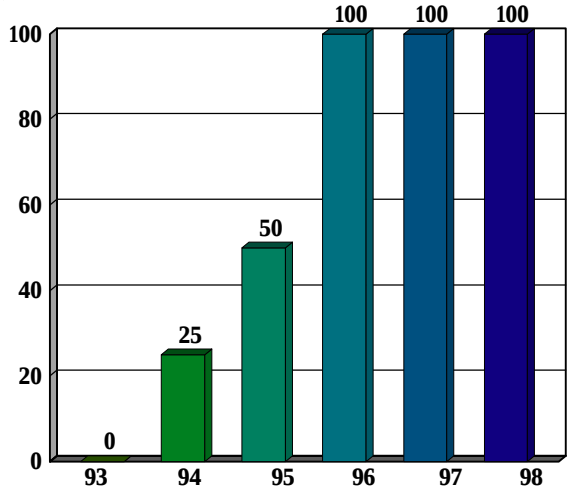

Cumulative

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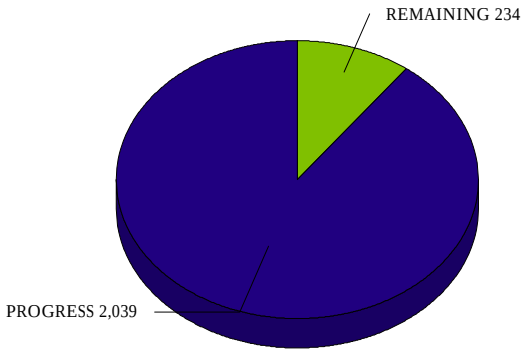
Middle Potomac

Forest Conservation

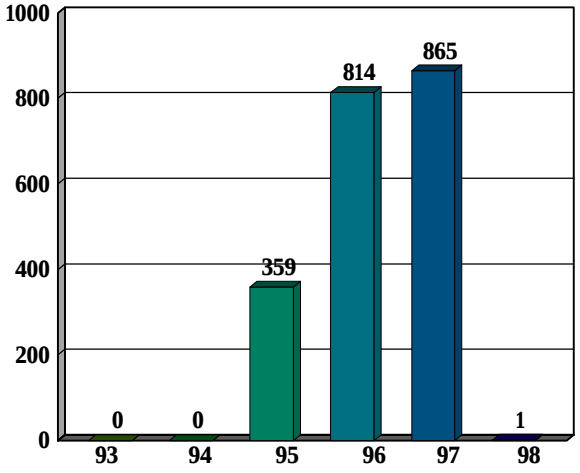
TS Goal: 2,273 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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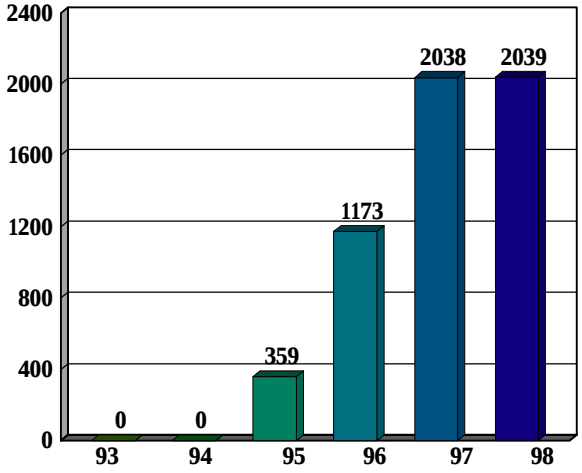

Cumulative

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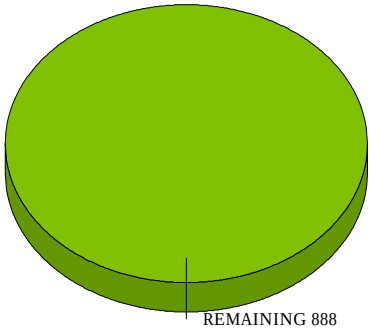
Middle Potomac

Forest Harvesting Practices

TS Goal: 888 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual	Cumulative

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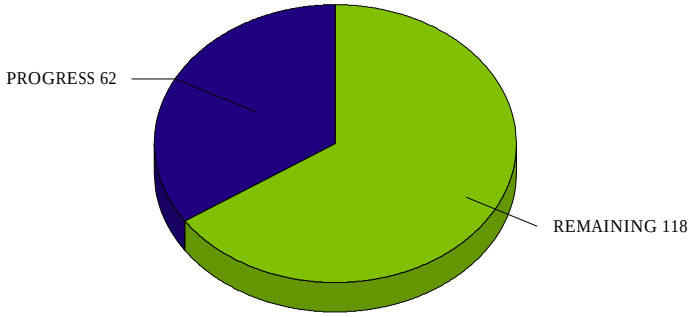
Middle Potomac

Forested Buffers

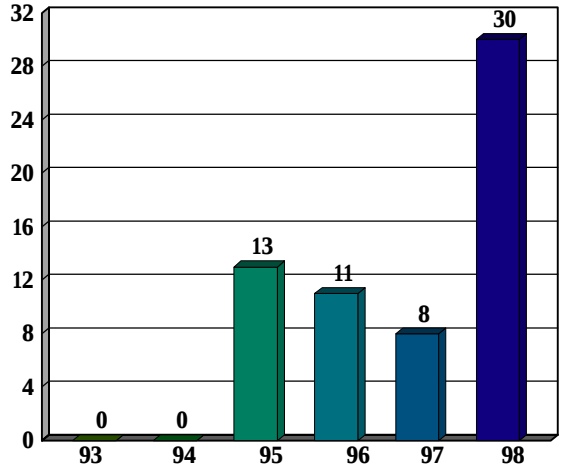
TS Goal: 180 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



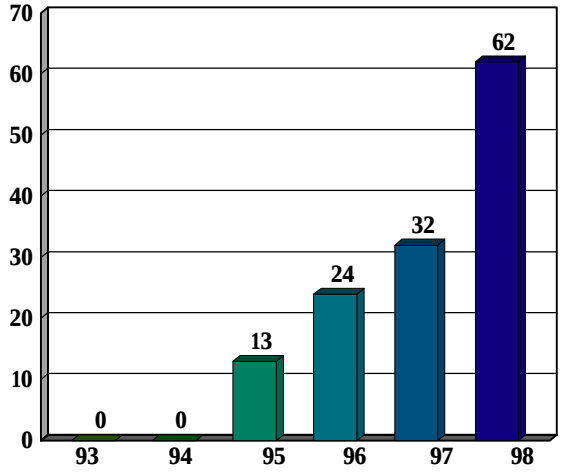
1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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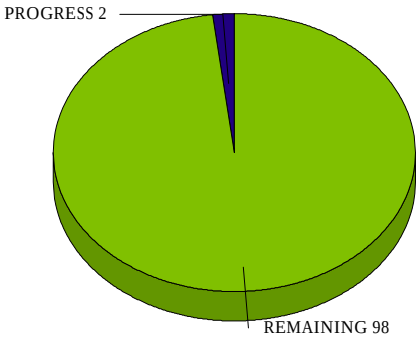
Middle Potomac

Grassed Buffers

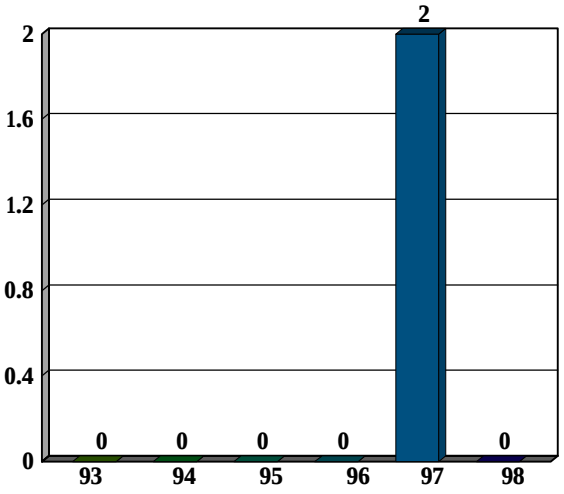
TS Goal: 100 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



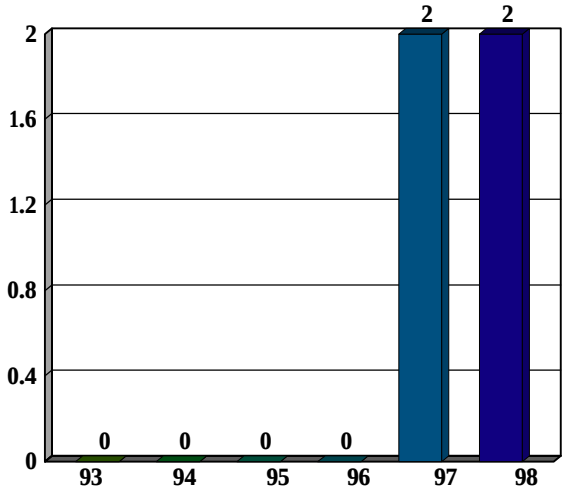
1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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Middle Potomac

Marine Pumpouts (installation)

TS Goal: 2 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record
(marinas)

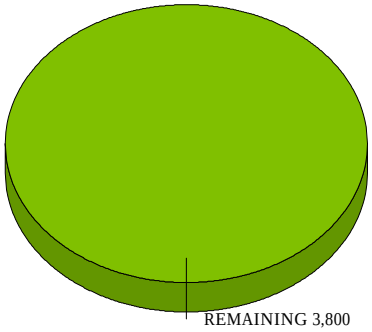
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Nonstructural Shore Erosion Control

TS Goal: 3,800 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record
(linear feet)

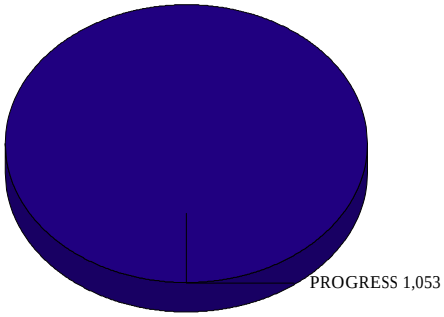
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Structural Shore Erosion Control

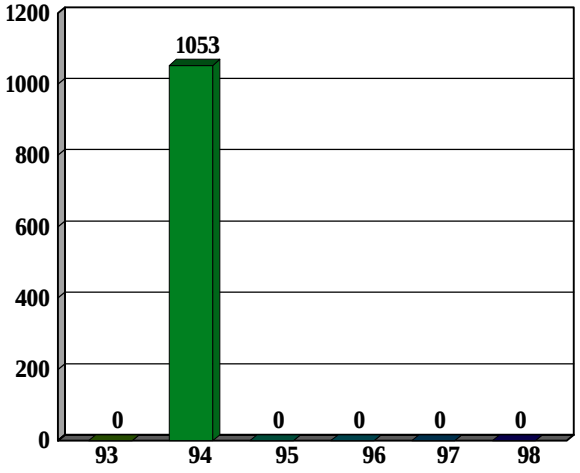
TS Goal: 0 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



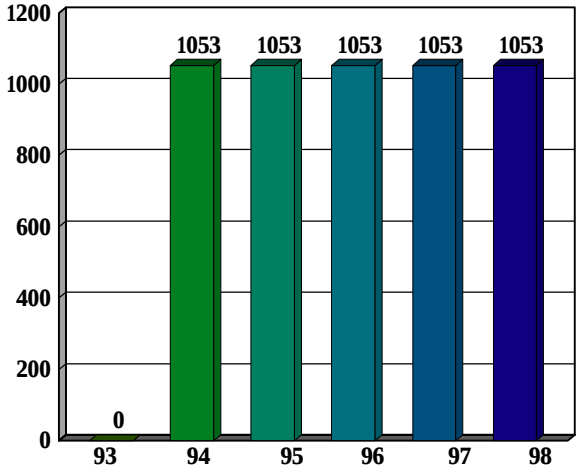
1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



Annual



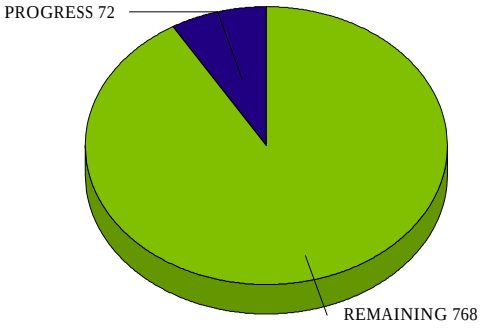
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Tree Planting

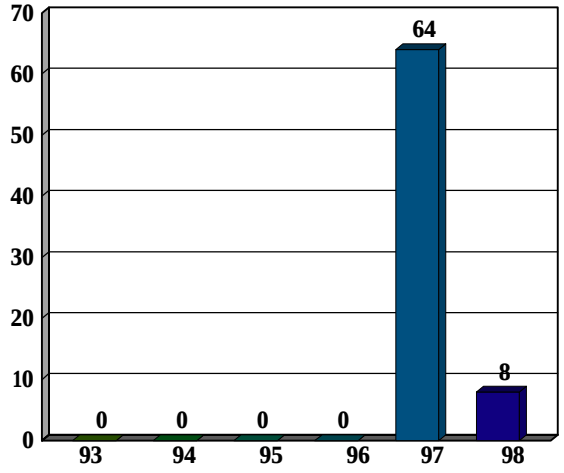
TS Goal: 840 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



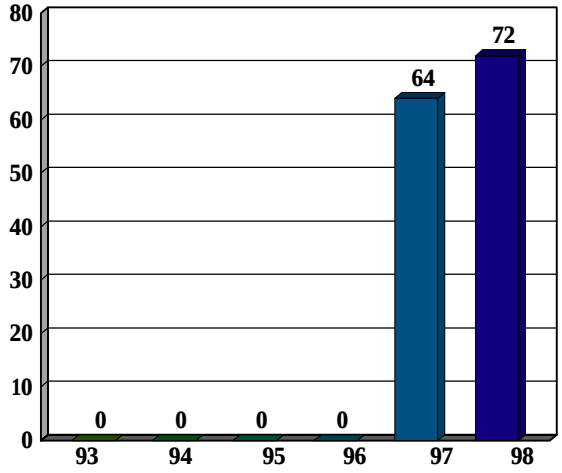
1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



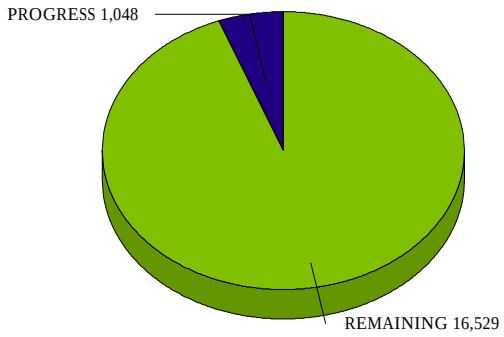
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Enhanced Stormwater Management

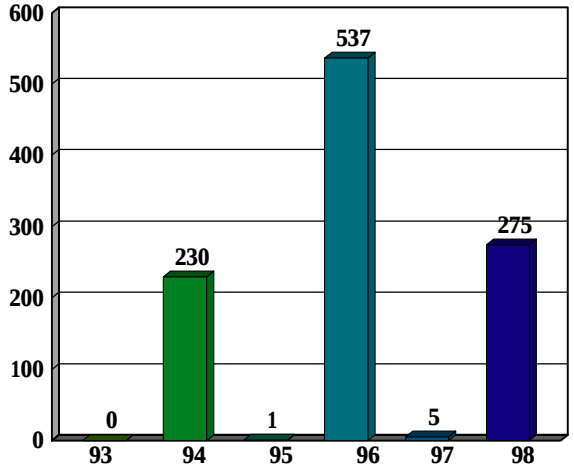
TS Goal: 17,577 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



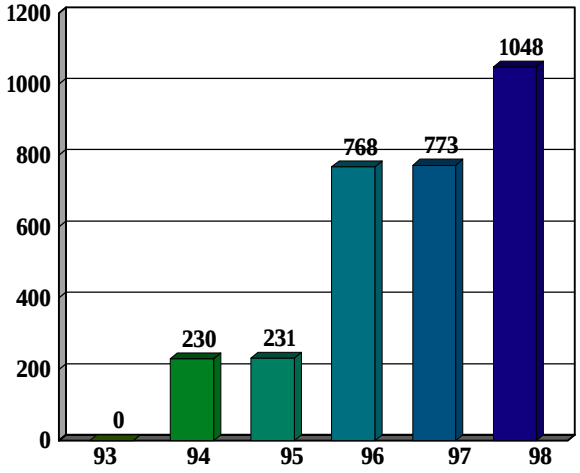
1998 Progress for Enhanced Stormwater Management (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



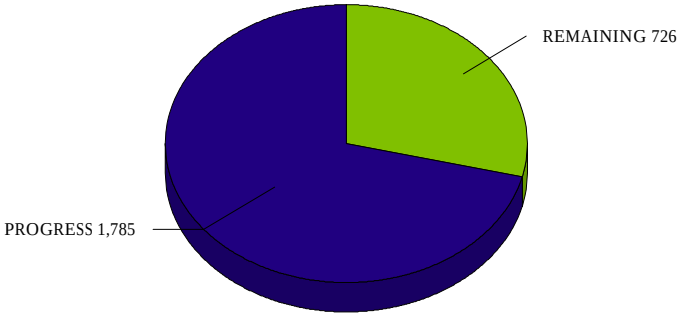
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Erosion and Sediment Control

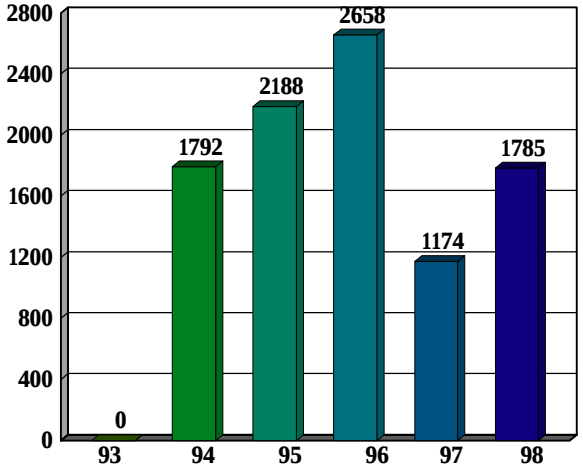
TS Goal: 2,511 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



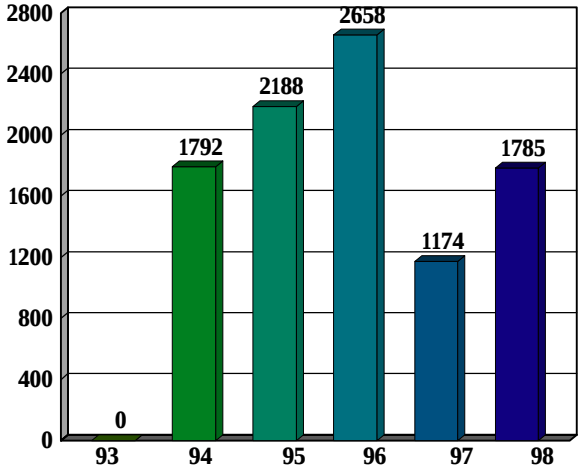
1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



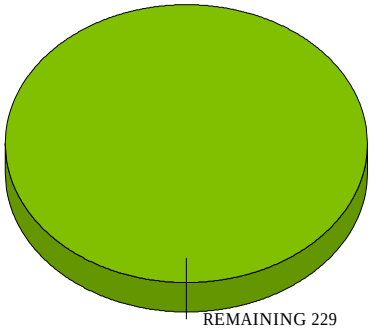
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Septic Connections

TS Goal: 229 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

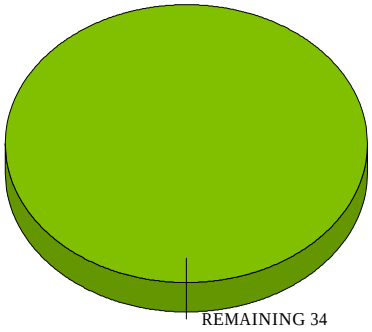
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Septic Denitrification

TS Goal: 34 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

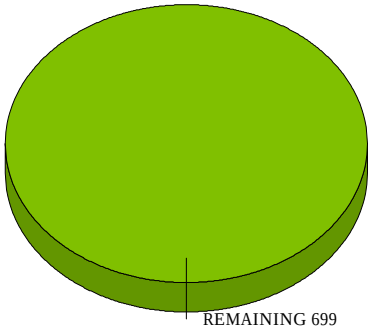
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Septic Pumping

TS Goal: 699 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

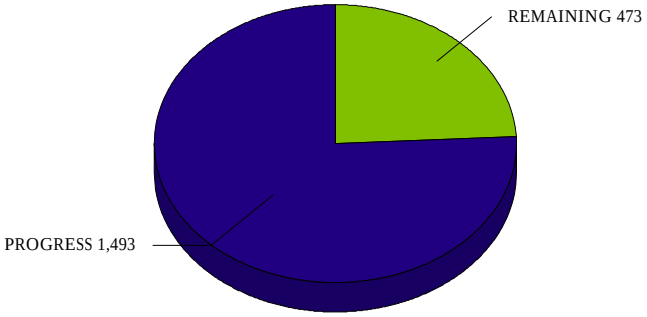
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Middle Potomac

Stormwater Management Conversion

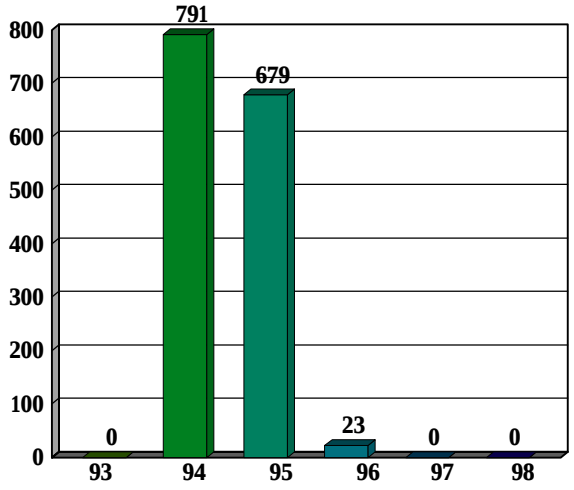
TS Goal: 1,966 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



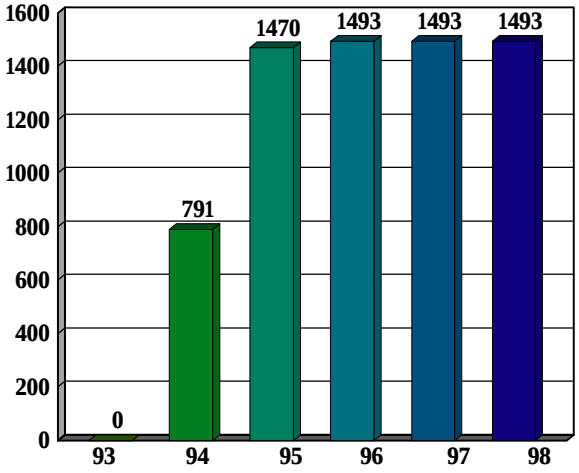
1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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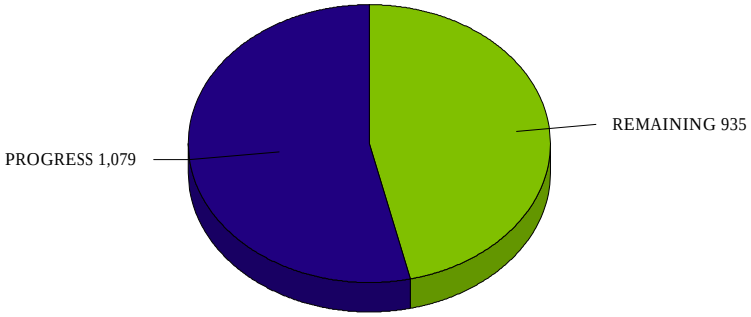
Middle Potomac

Stormwater Management Retrofits

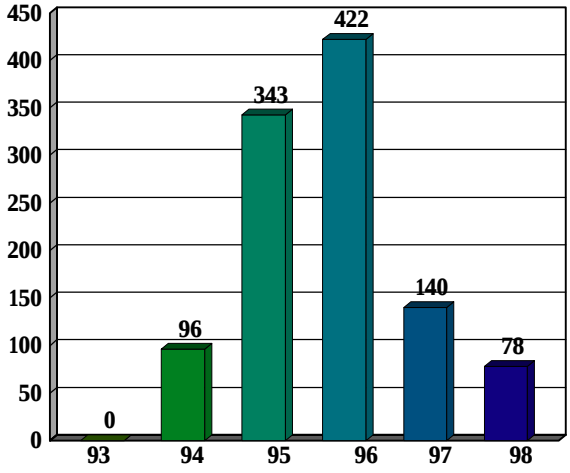
TS Goal: 2,014 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



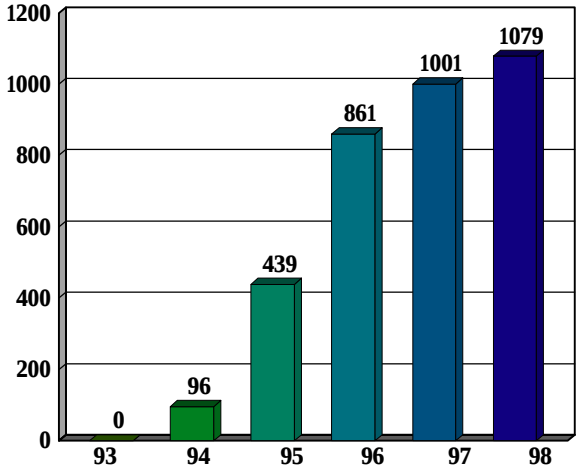
1998 Progress for Stormwater Management Retrofits
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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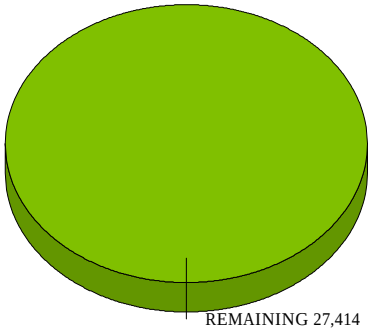
Middle Potomac

Urban Nutrient Management

TS Goal: 27,414 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

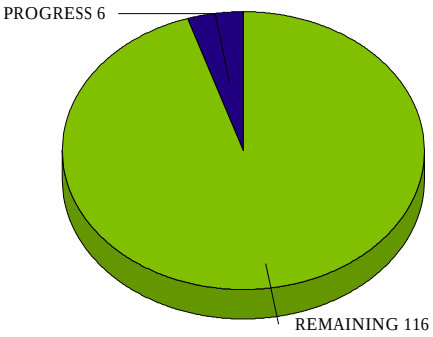
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Animal Waste Management Systems: Livestock

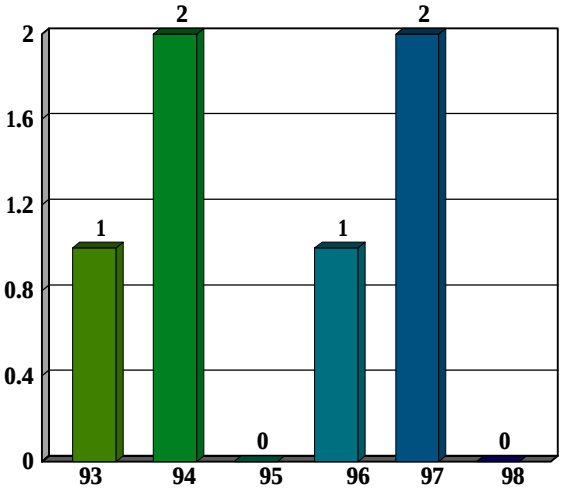
TS Goal: 122 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



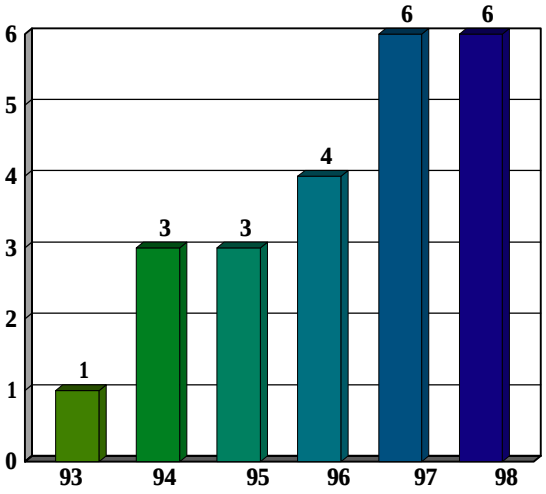
1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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Patasco/Back River

Animal Waste Management Systems: Poultry

TS Goal: 0 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

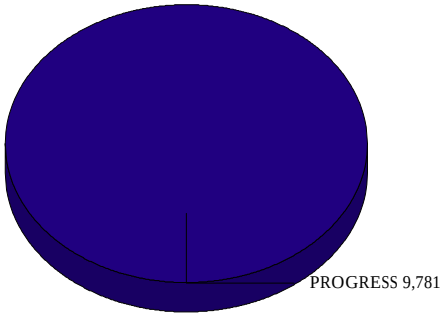
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Conservation Tillage

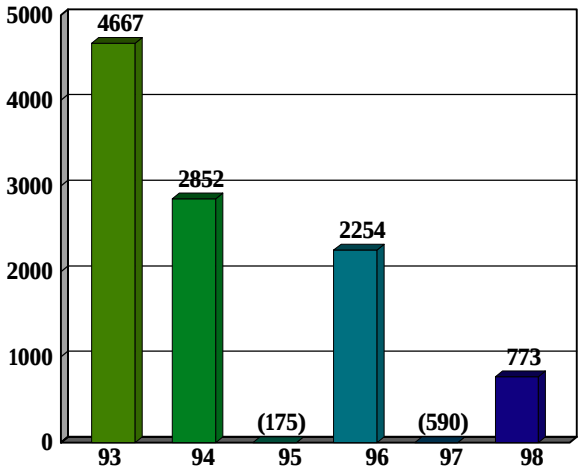
TS Goal: 6,686 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



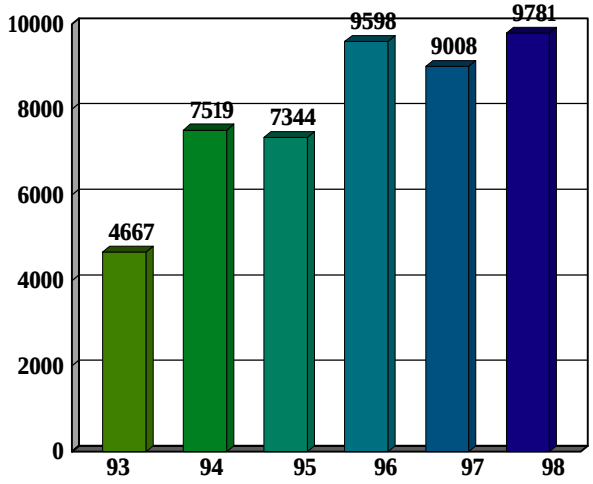
1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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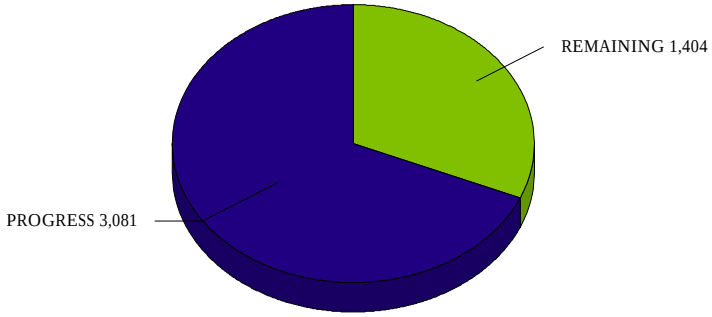
Patasco/Back River

Cover Crops

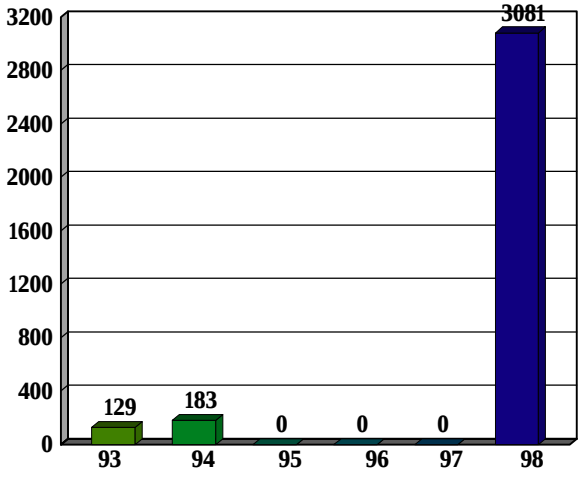
TS Goal: 4,485 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



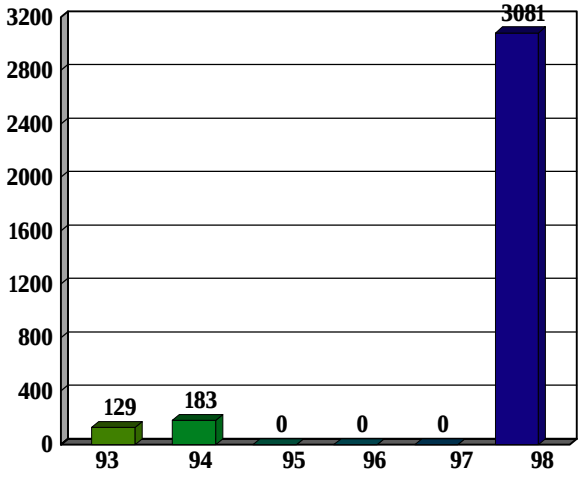
1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



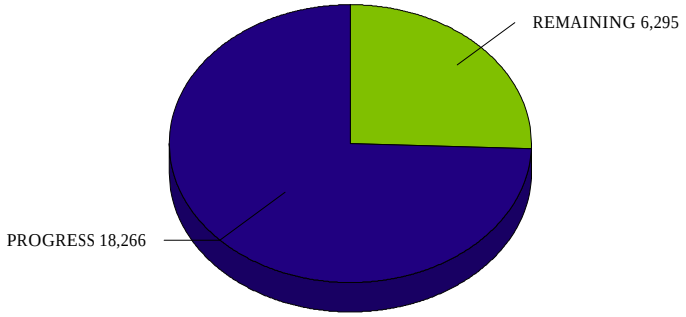
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Nutrient Management Plan Implementation

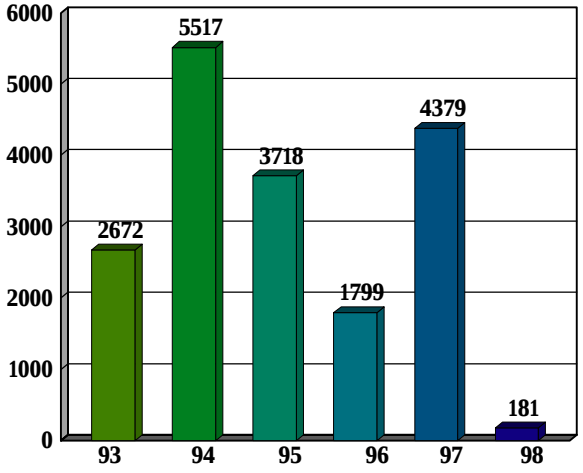
TS Goal: 24,561 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



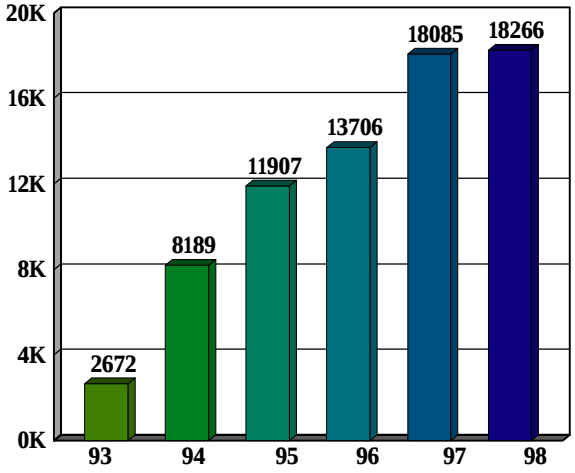
1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



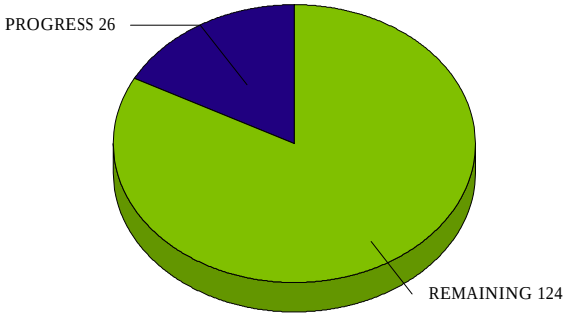
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Retirement of Highly Erodible Land

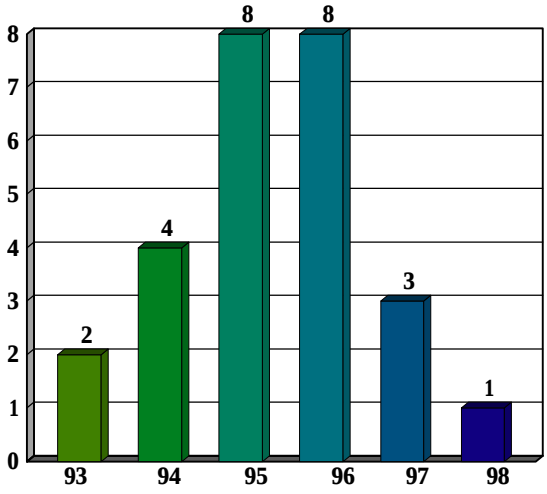
TS Goal: 150 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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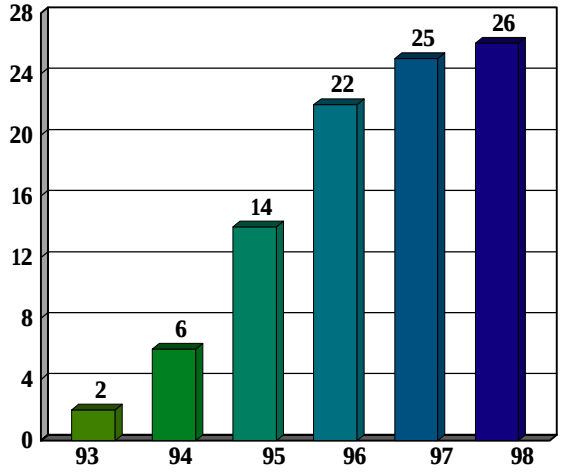


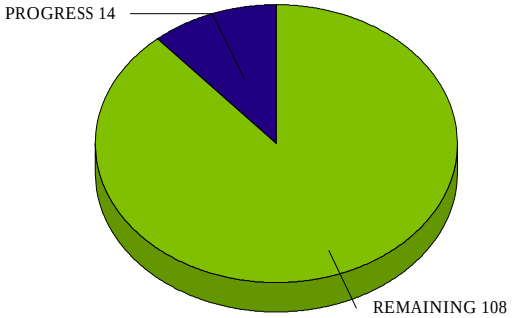
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Runoff Control

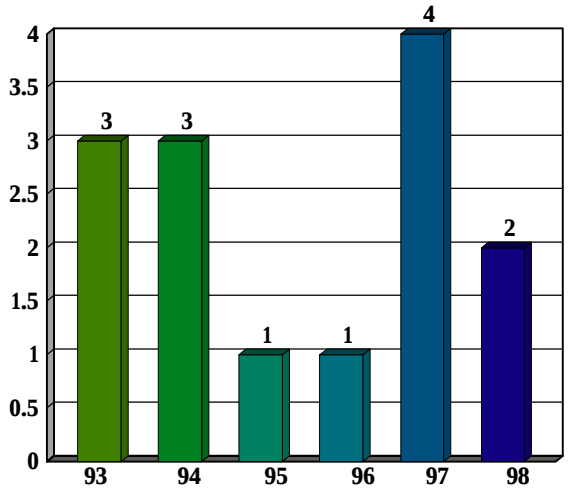
TS Goal: 122 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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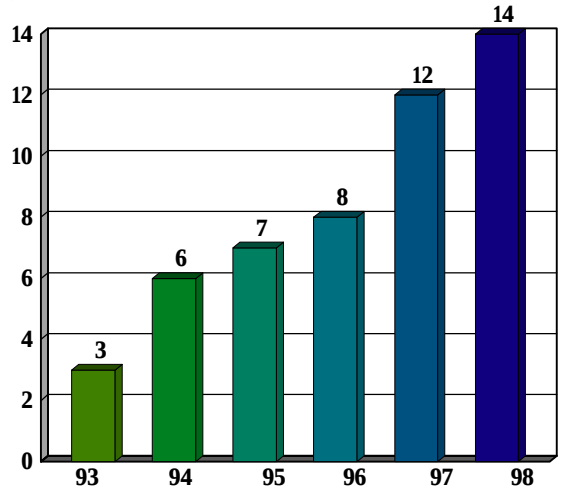


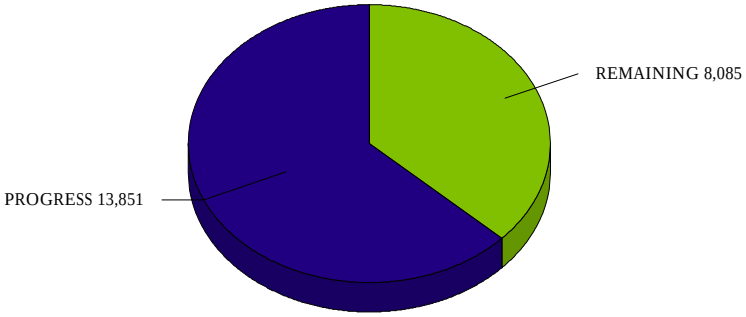
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

SCWQP Implementation and Treatment of Highly Erodible Land

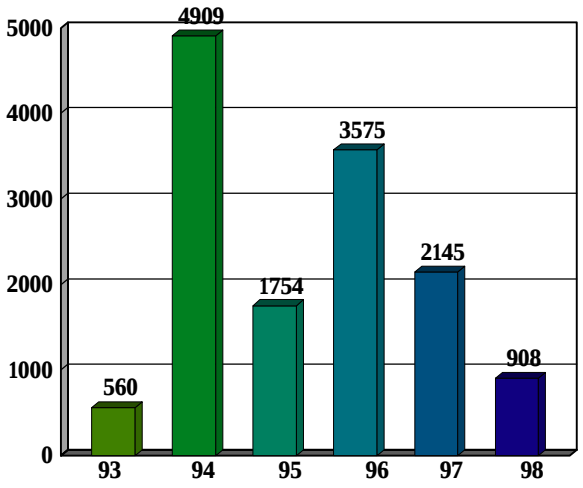
TS Goal: 21,936 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



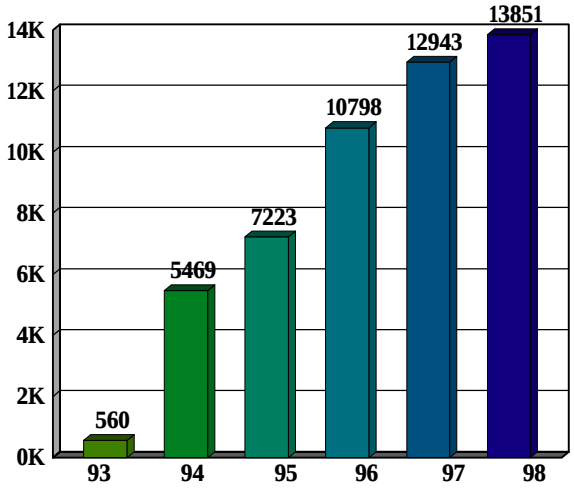
1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



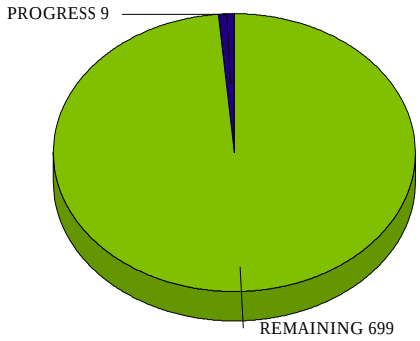
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Stream Protection with Fencing

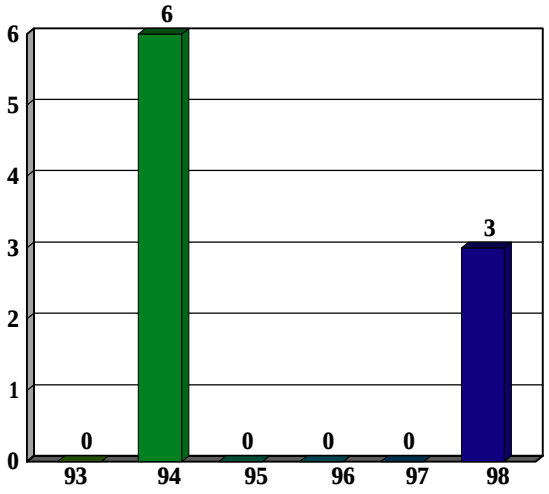
TS Goal: 708 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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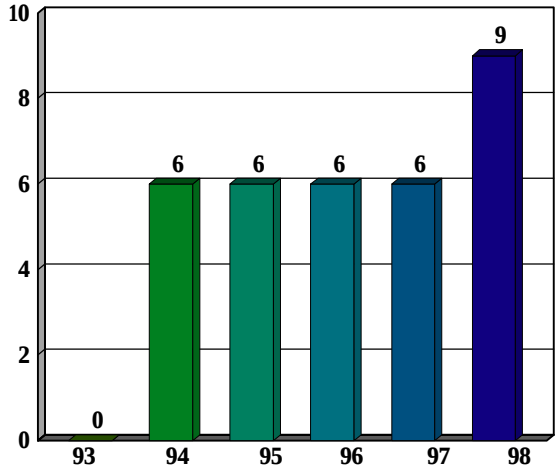


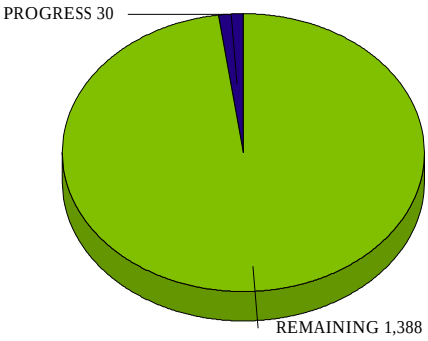
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Stream Protection without Fencing

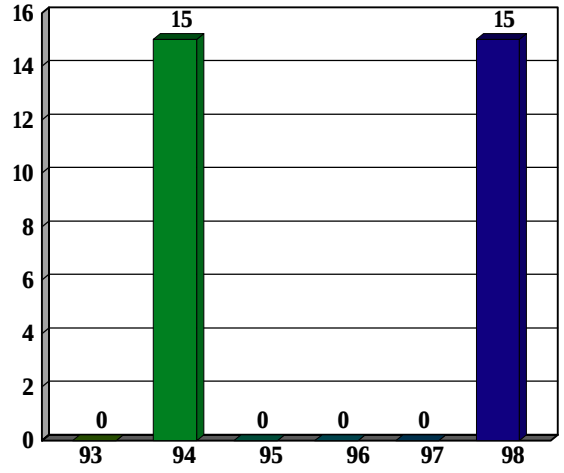
TS Goal: 1,418 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection without Fencing (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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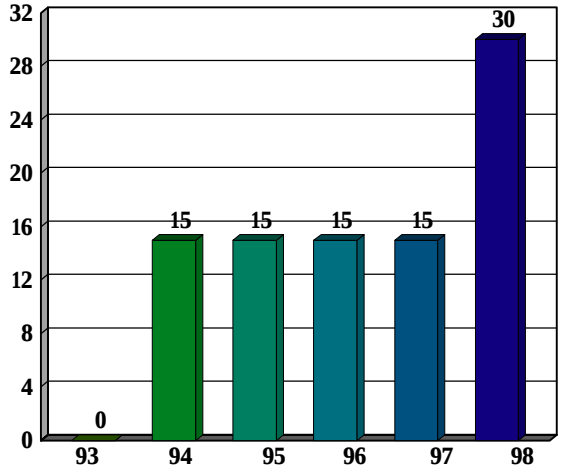


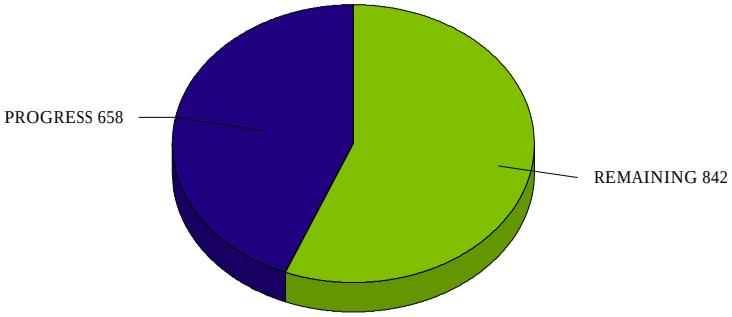
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Forest Conservation

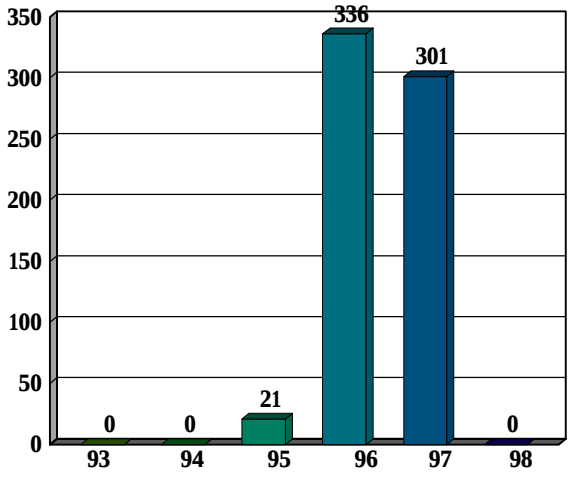
TS Goal: 1,500 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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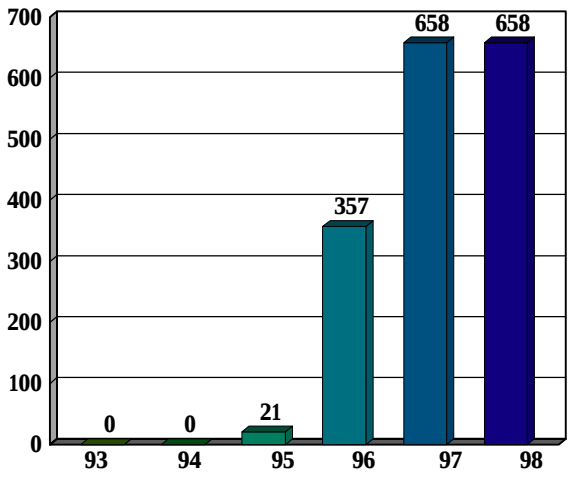

Cumulative

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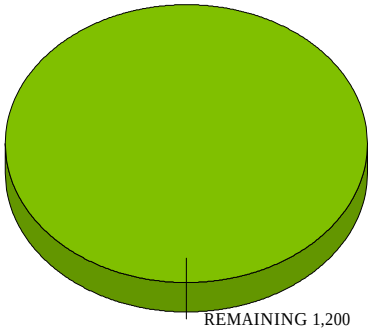
Patasco/Back River

Forest Harvesting Practices

TS Goal: 1,200 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

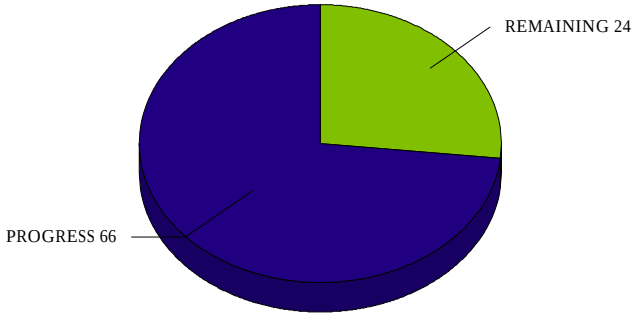
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Forested Buffers

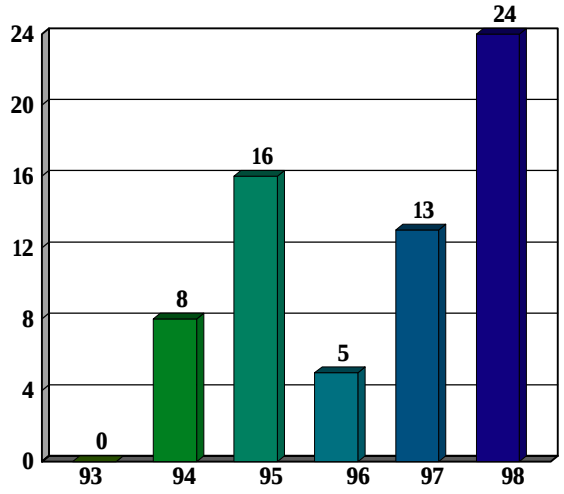
TS Goal: 90 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



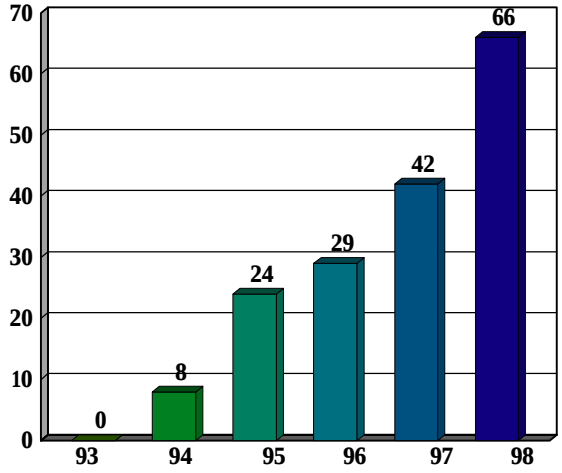
1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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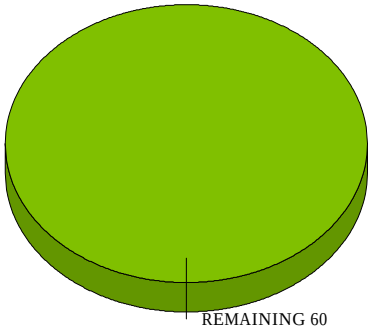
Patasco/Back River

Grassed Buffers

TS Goal: 60 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

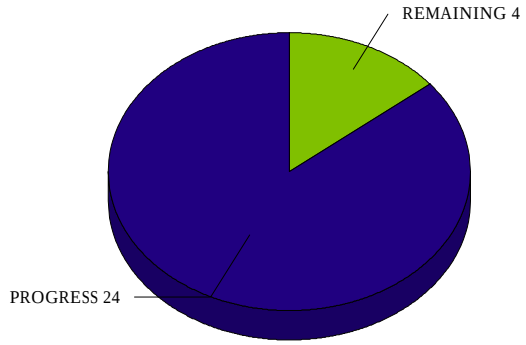
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

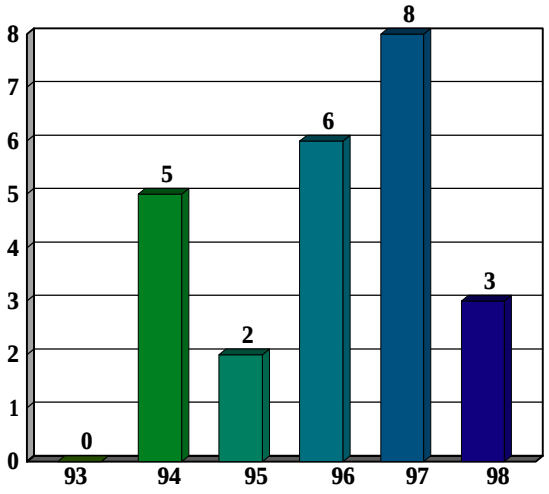
Marine Pumpouts (installation)

TS Goal: 28 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

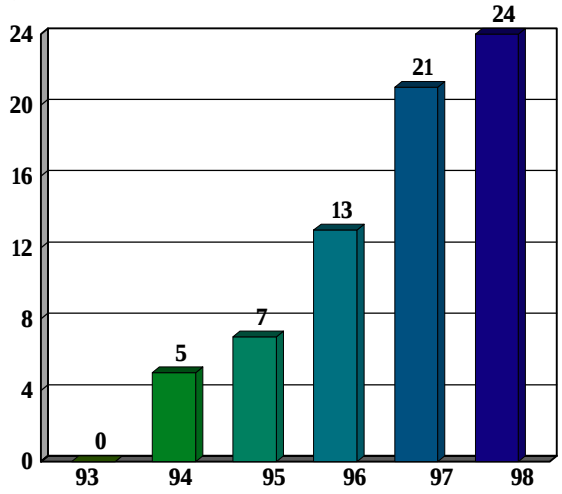


1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record
(marinas)



Annual



Cumulative

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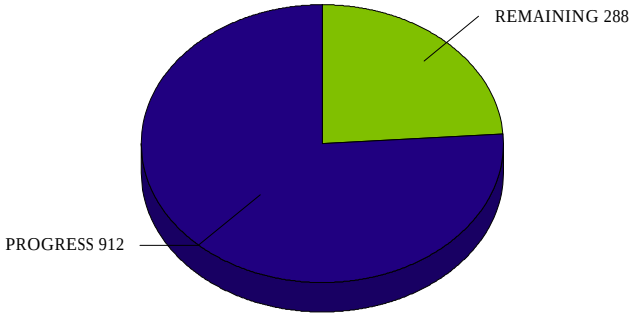
Patasco/Back River

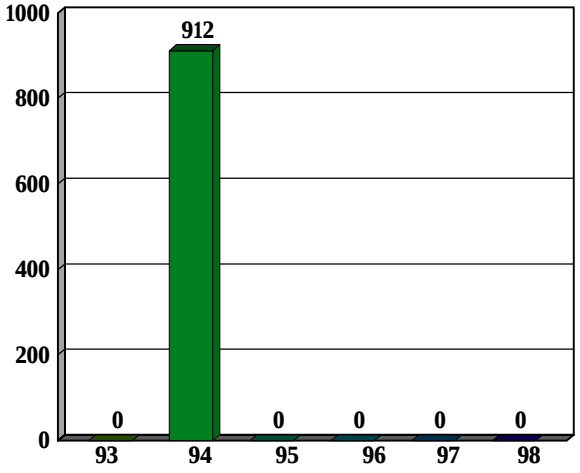
Nonstructural Shore Erosion Control

TS Goal: 1,200 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

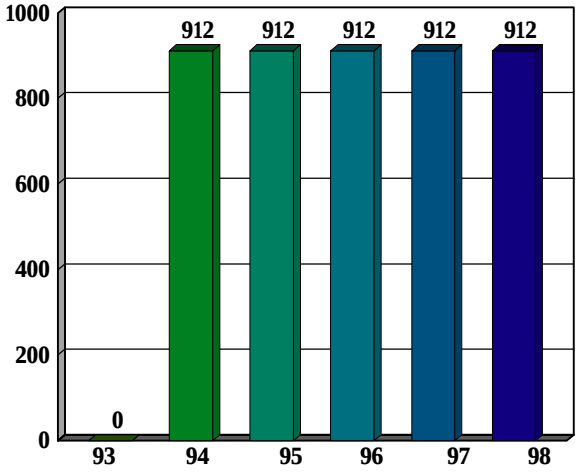


1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record
(linear feet)



Annual



Cumulative

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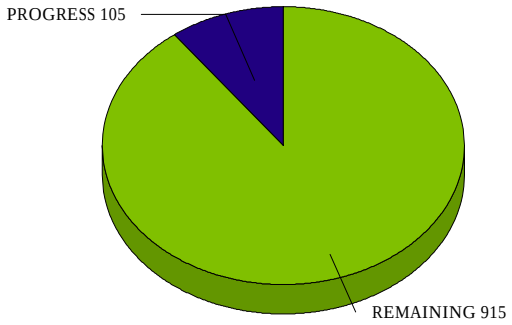
Patasco/Back River

Structural Shore Erosion Control

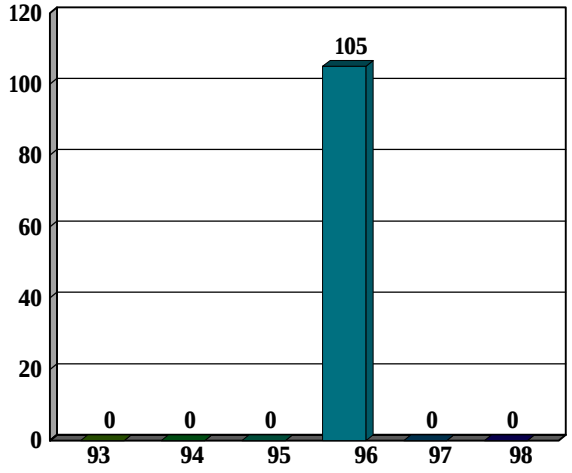
TS Goal: 1,020 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



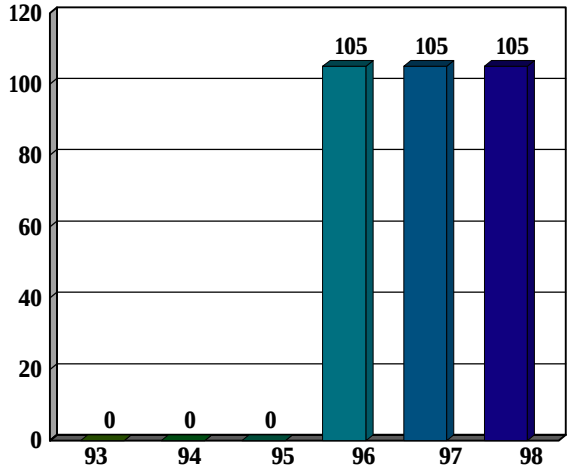
1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



Annual



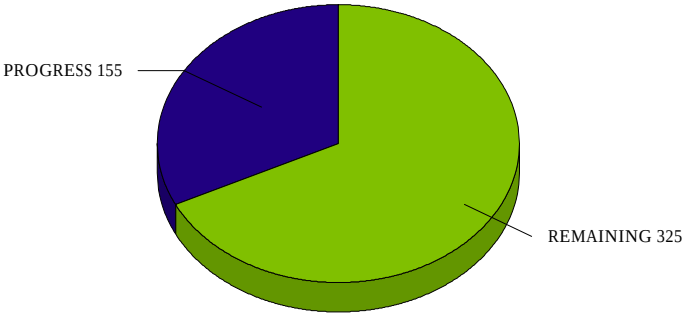
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Tree Planting

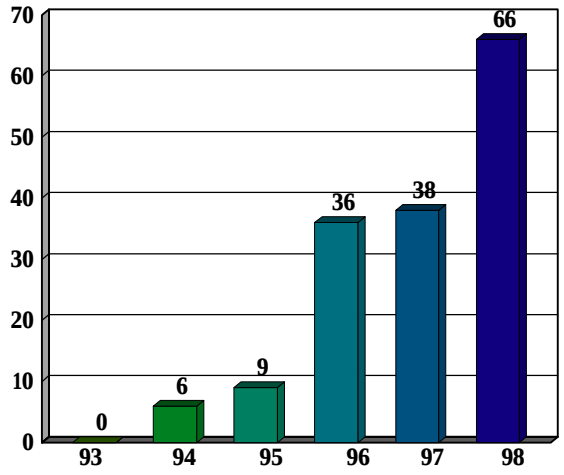
TS Goal: 480 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



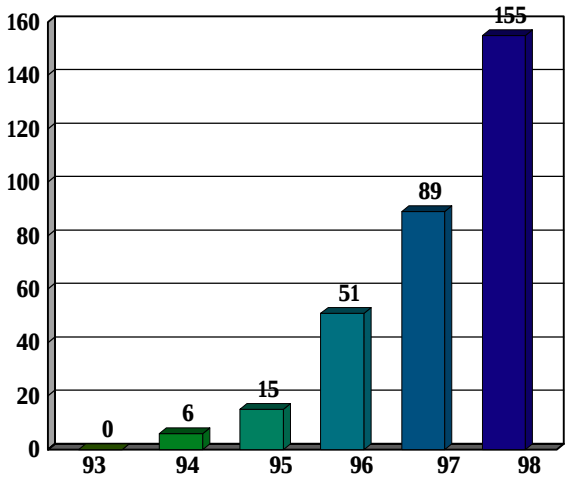
1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



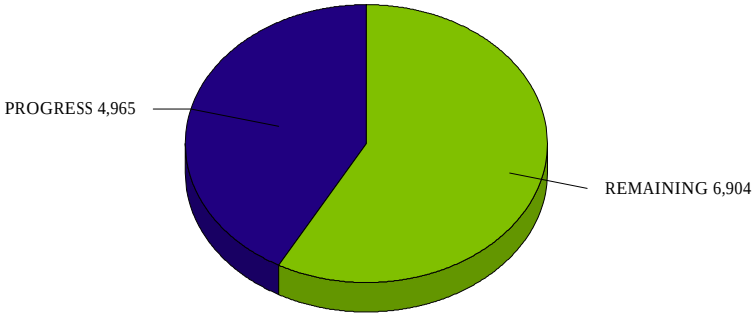
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Enhanced Stormwater Management

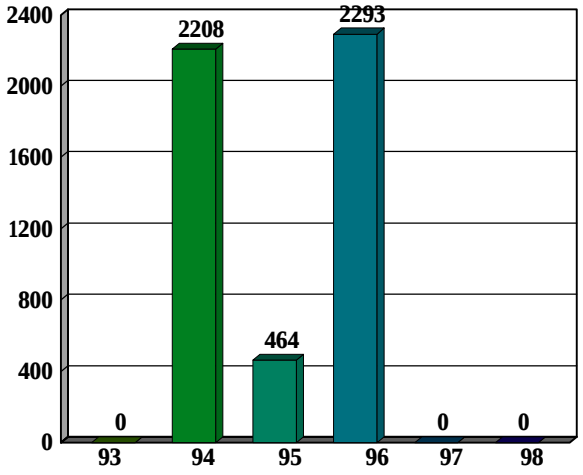
TS Goal: 11,869 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



1998 Progress for Enhanced Stormwater Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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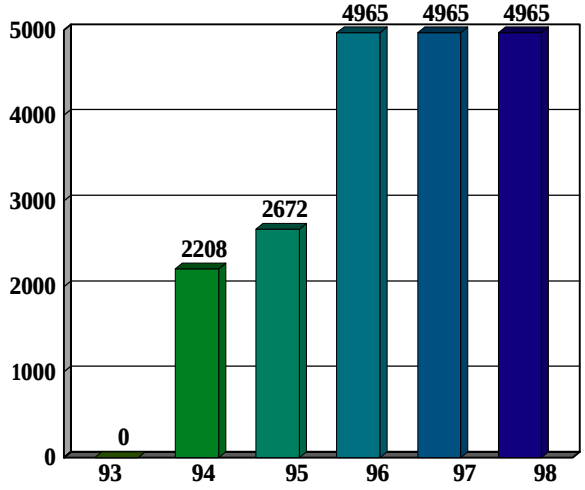

Cumulative

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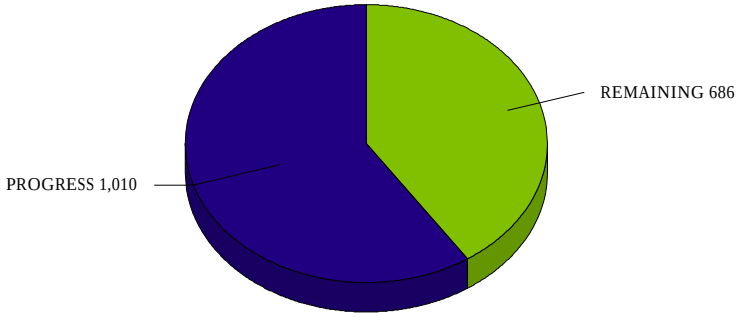
Patasco/Back River

Erosion and Sediment Control

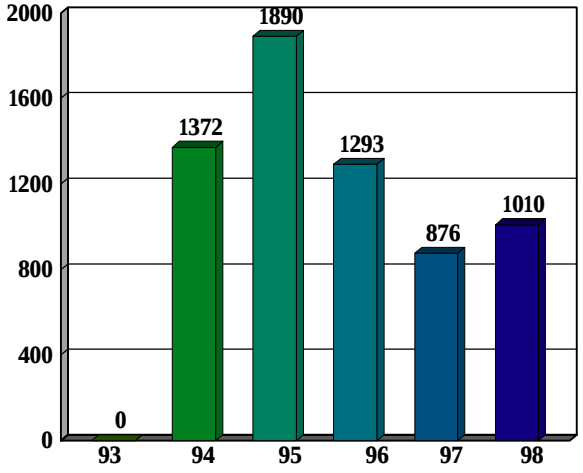
TS Goal: 1,696 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



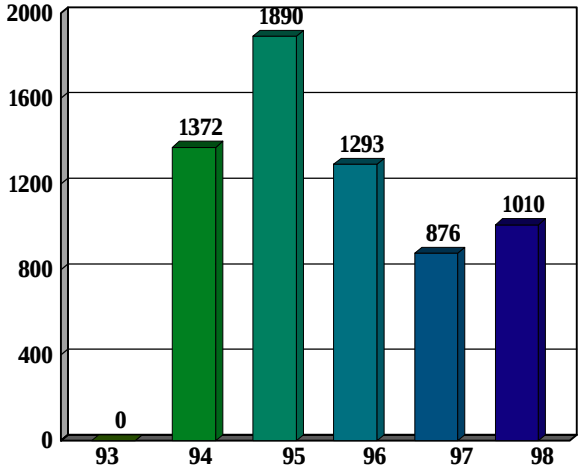
1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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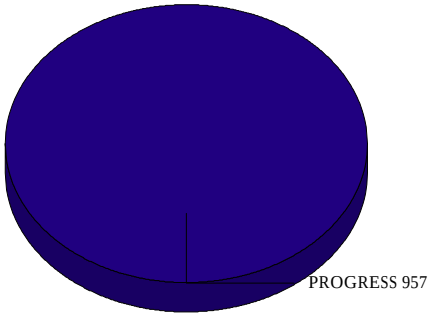
Patasco/Back River

Septic Connections

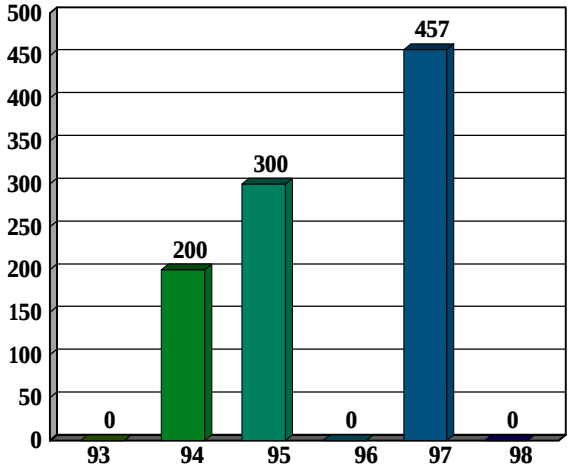
TS Goal: 44 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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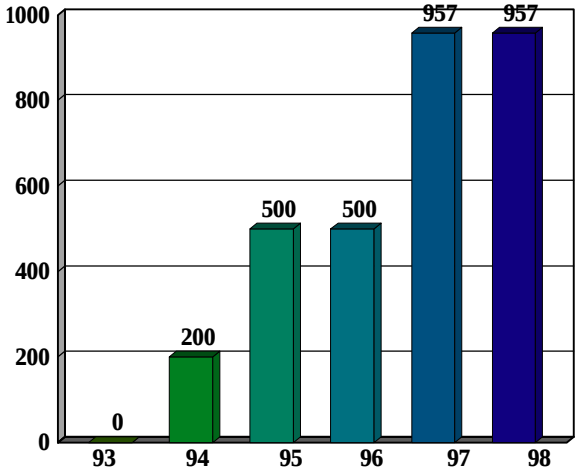


Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Septic Denitrification

TS Goal: 0 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a

1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

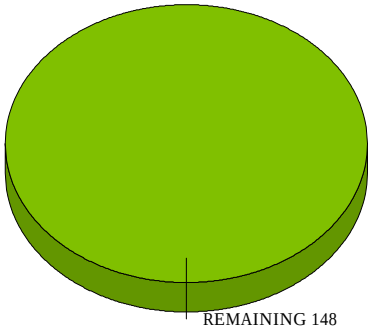
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Septic Pumping

TS Goal: 148 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

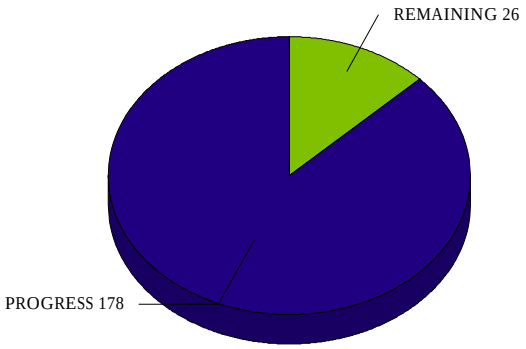
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Stormwater Management Conversion

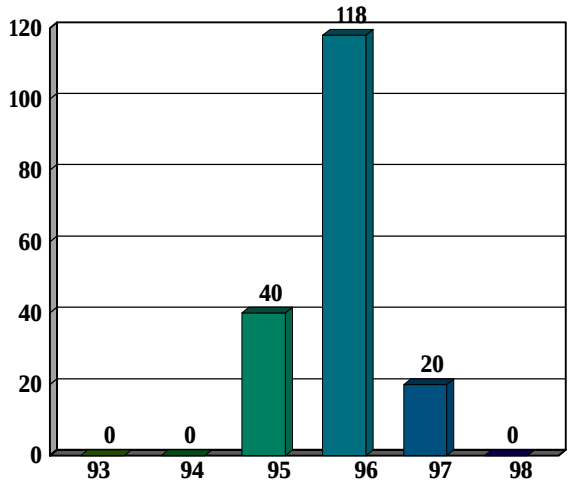
TS Goal: 204 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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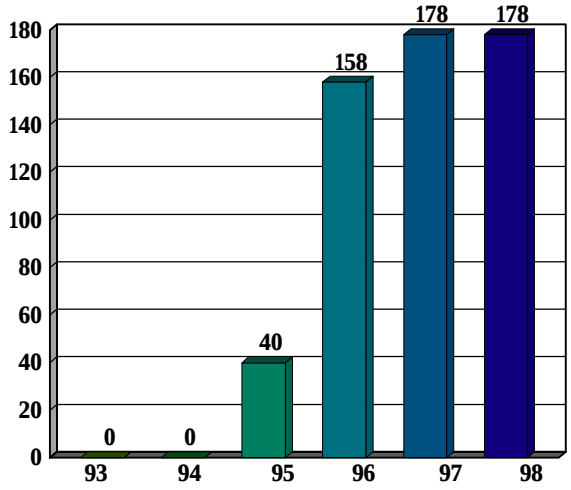


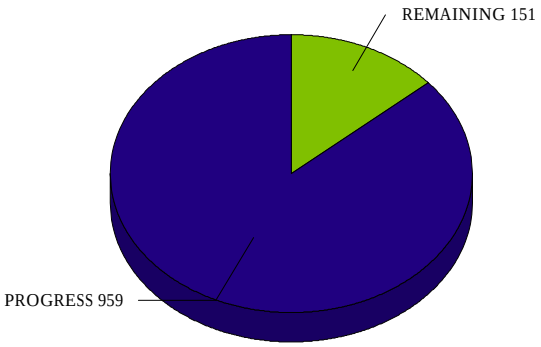
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patasco/Back River

Stormwater Management Retrofits

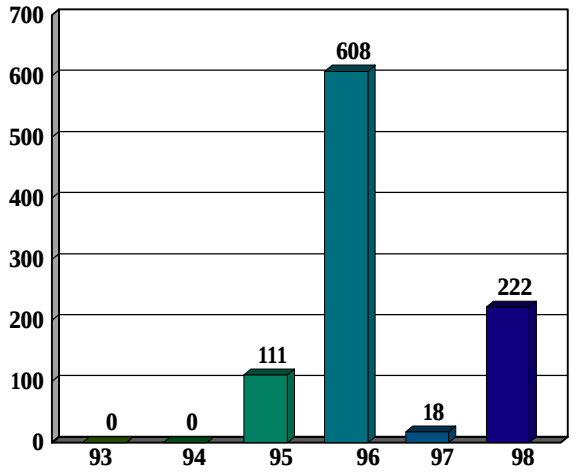
TS Goal: 1,110 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Retrofits (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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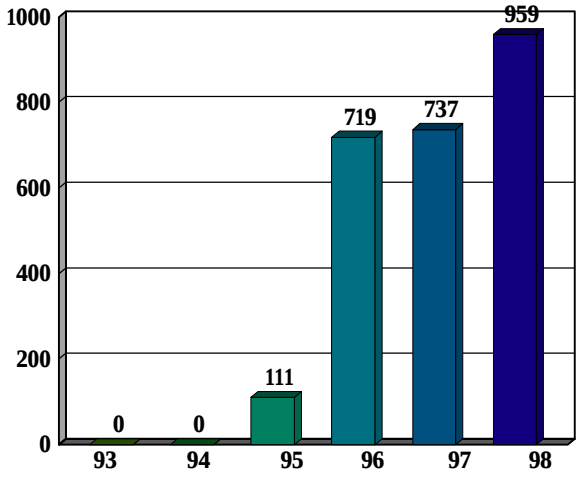

Cumulative

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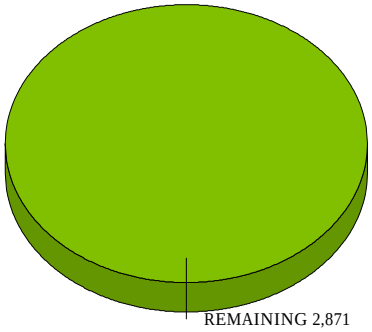
Patasco/Back River

Urban Nutrient Management

TS Goal: 2,871 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

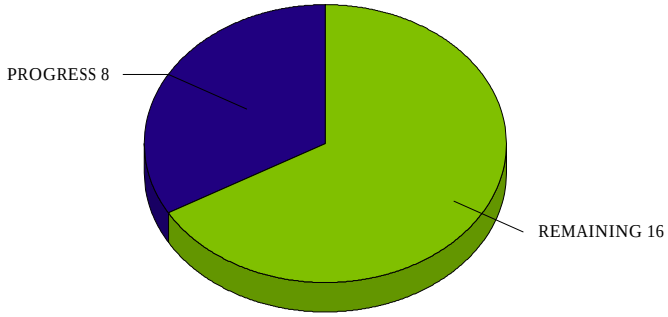
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patuxent

Animal Waste Management Systems: Livestock

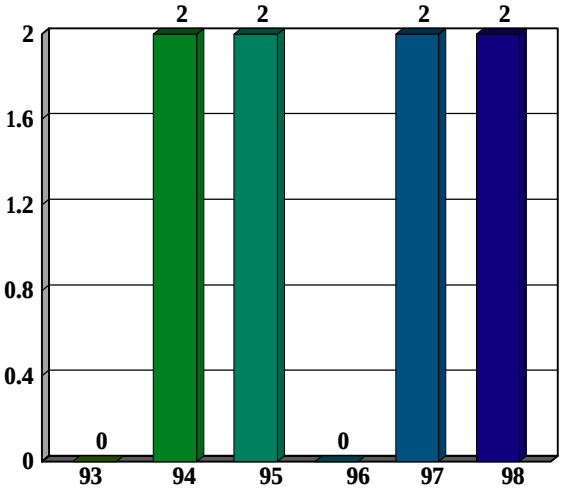
TS Goal: 24 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



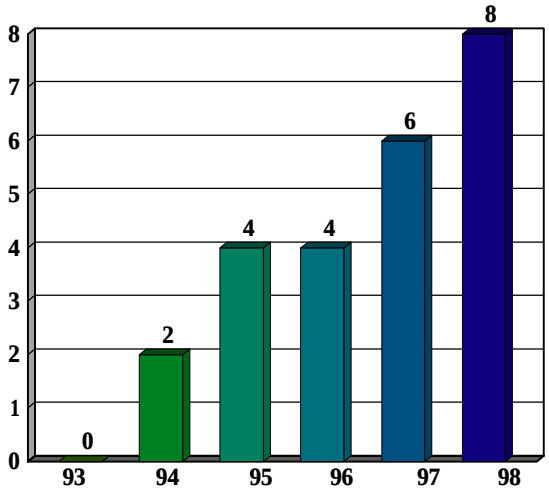
1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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Patuxent

Animal Waste Management Systems: Poultry

TS Goal: 0 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

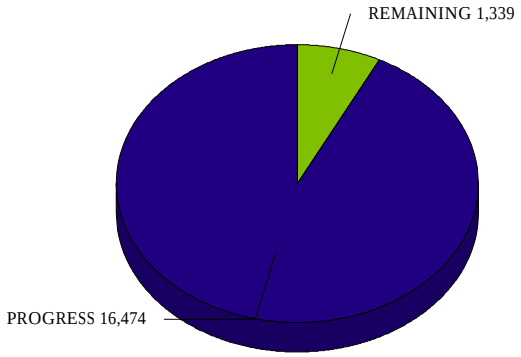
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patuxent

Conservation Tillage

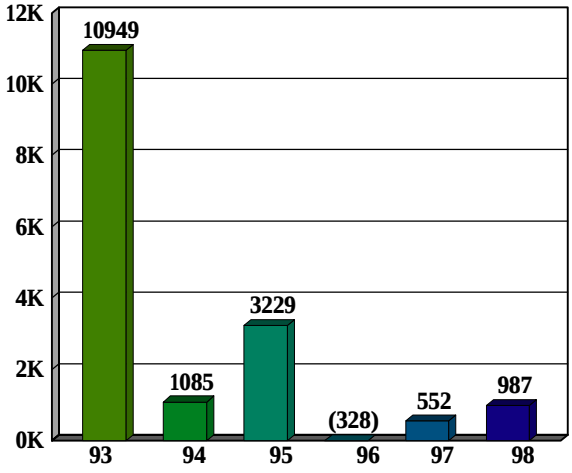
TS Goal: 17,813 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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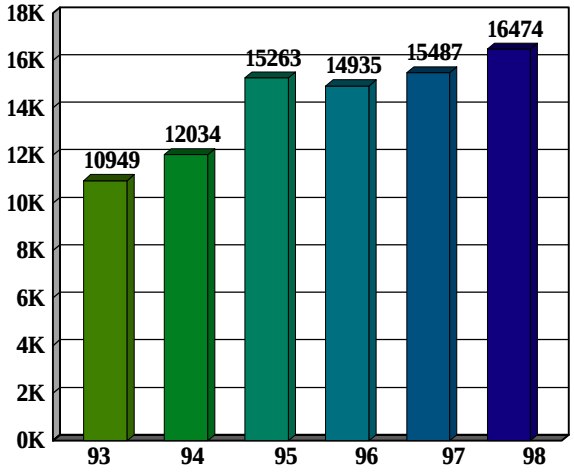

Cumulative

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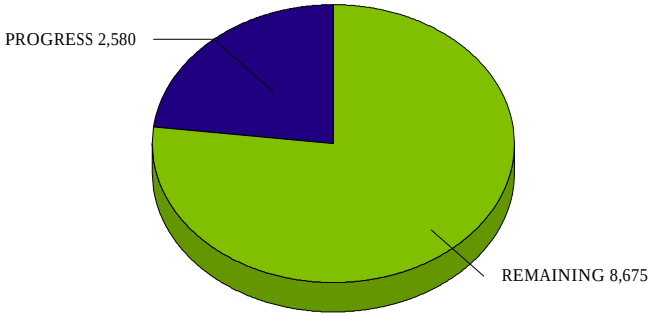
Patuxent

Cover Crops

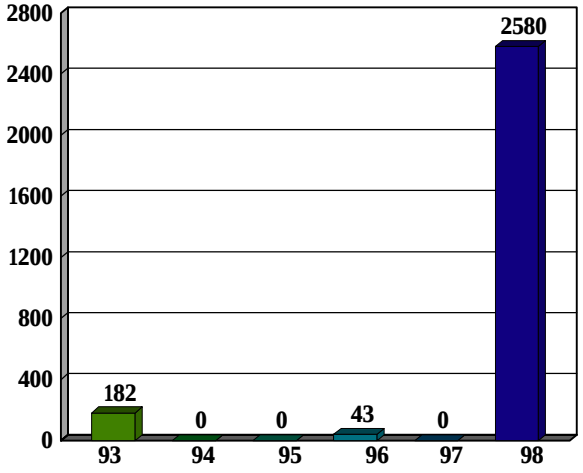
TS Goal: 11,255 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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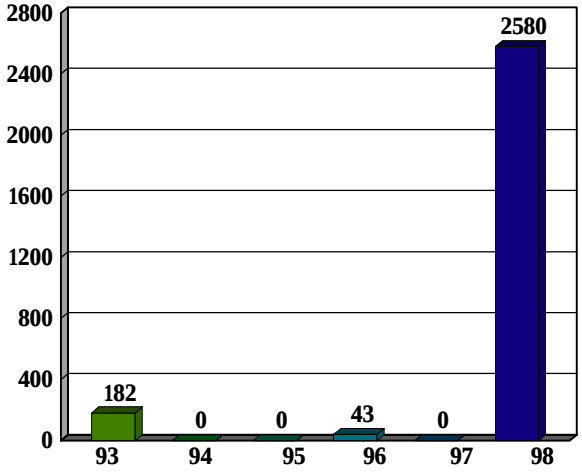


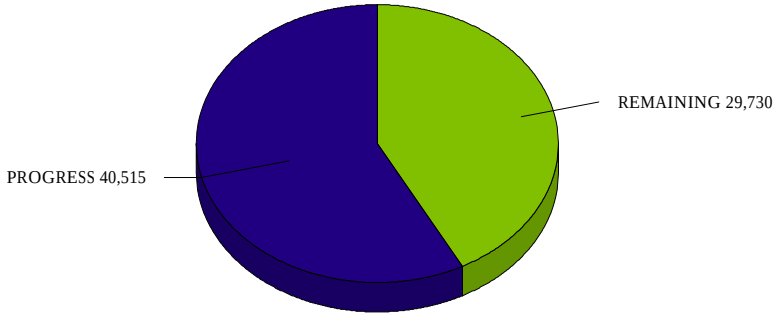
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patuxent

Nutrient Management Plan Implementation

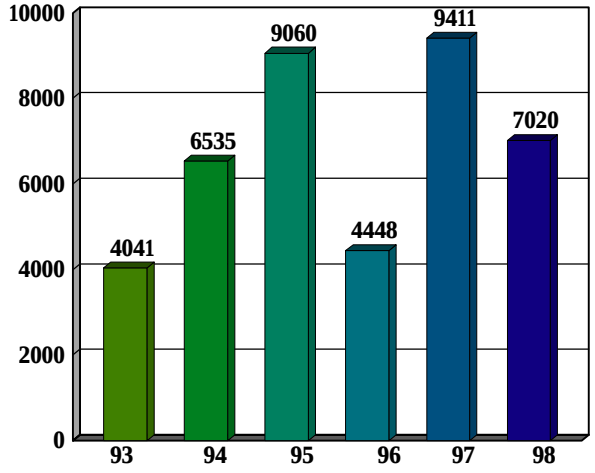
TS Goal: 70,245 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



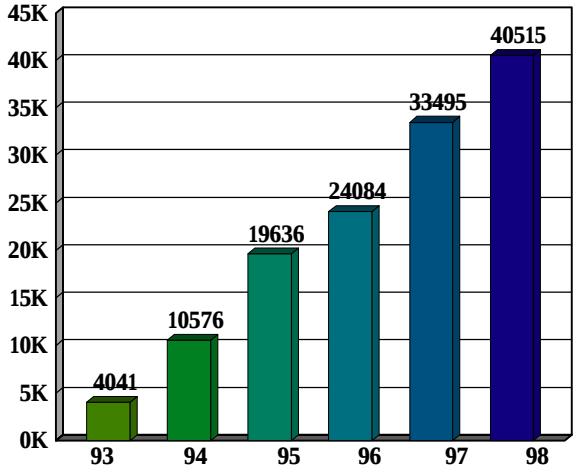
1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



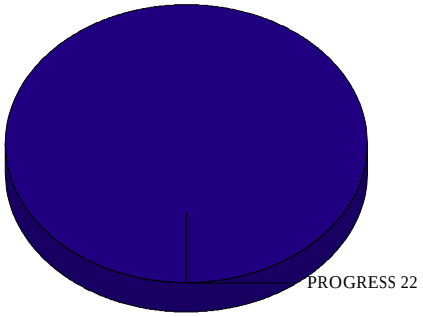
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patuxent

Retirement of Highly Erodible Land

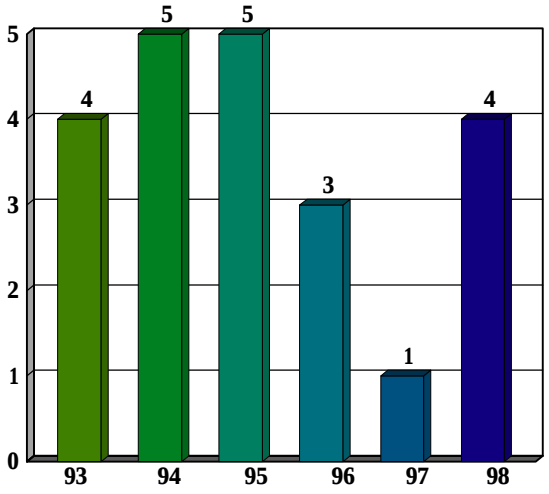
TS Goal: 0 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



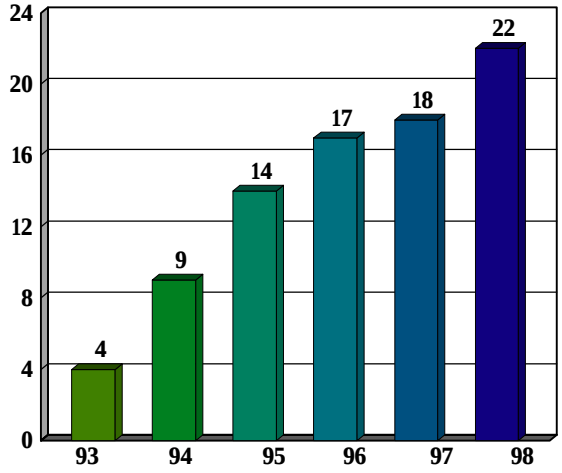
1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



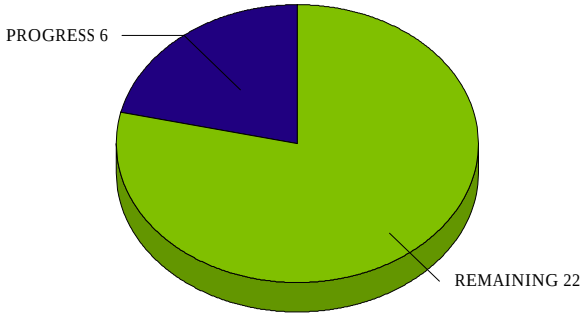
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patuxent

Runoff Control

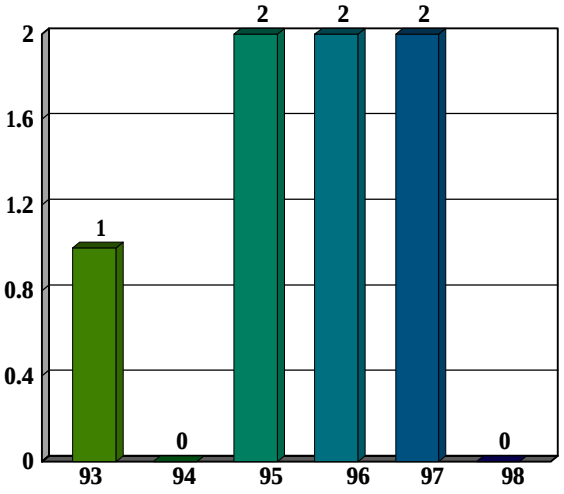
TS Goal: 28 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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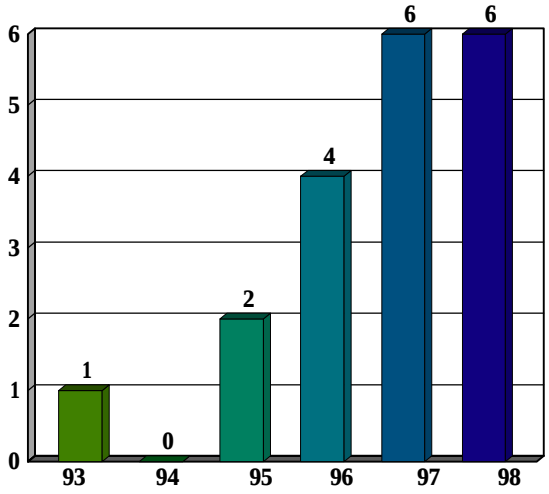

Cumulative

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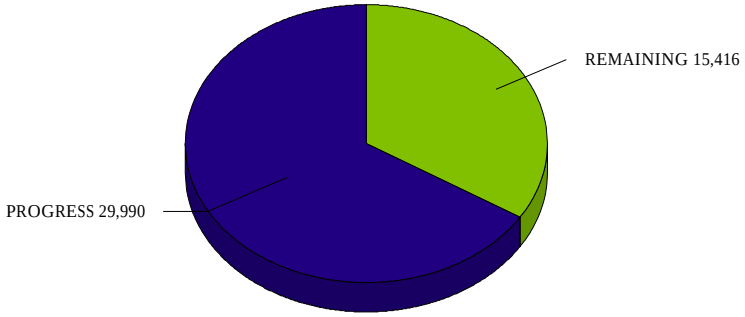
Patuxent

SCWQP Implementation and Treatment of Highly Erodible Land

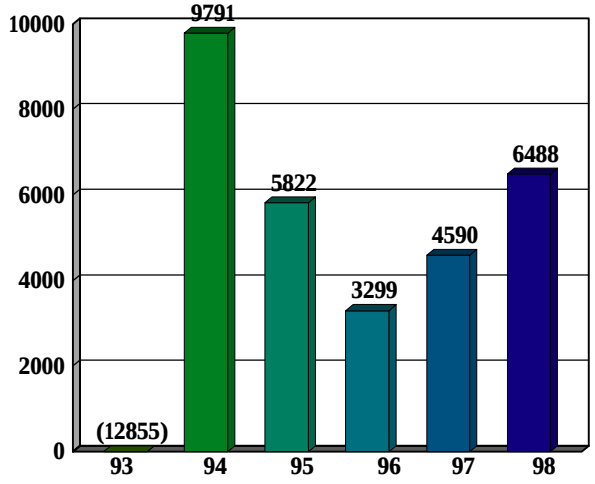
TS Goal: 45,406 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



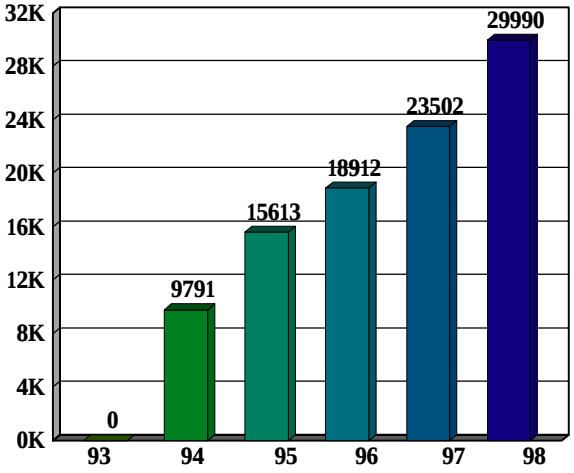
1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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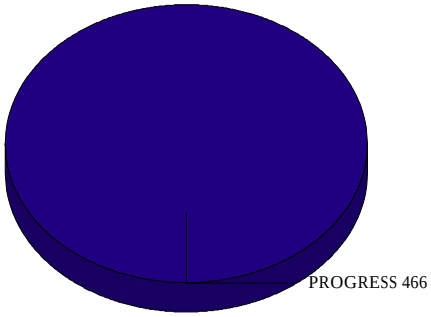
Patuxent

Stream Protection with Fencing

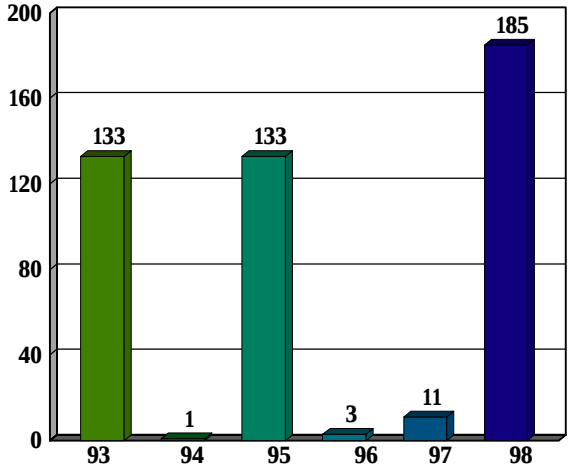
TS Goal: 10 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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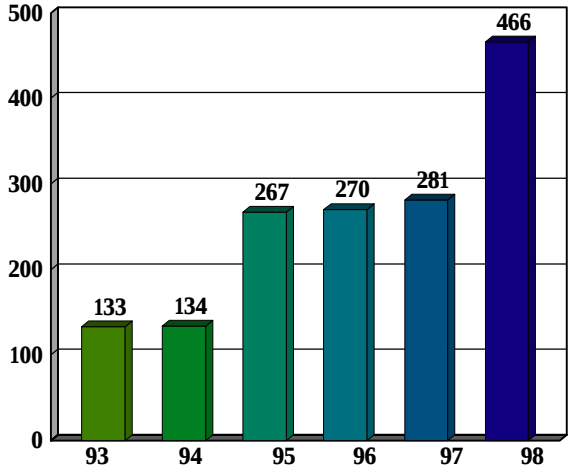

Cumulative

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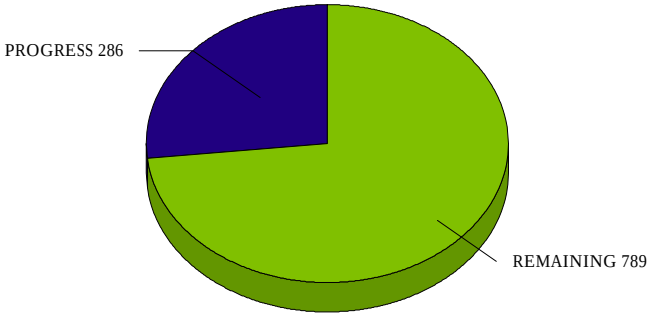
Patuxent

Stream Protection without Fencing

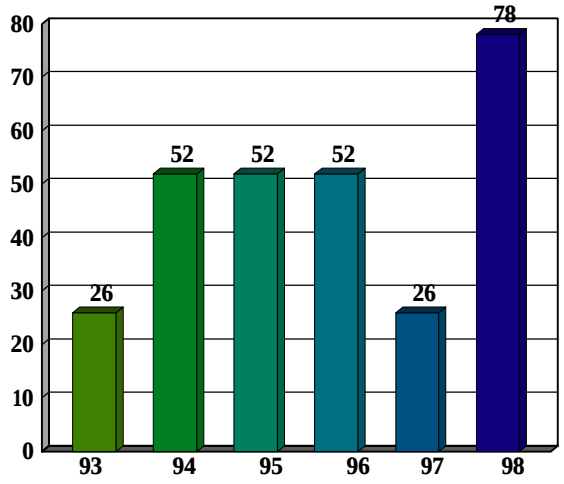
TS Goal: 1,075 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



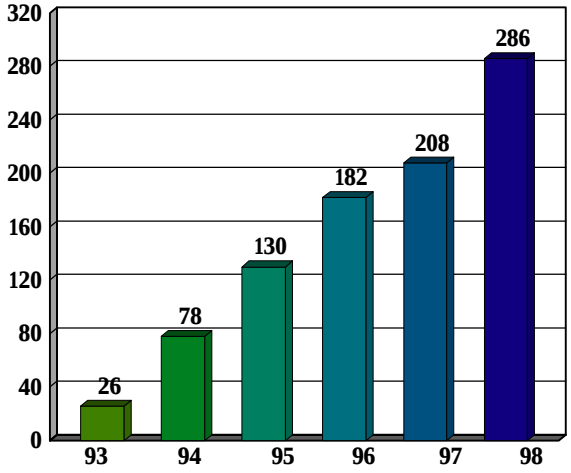
1998 Progress for Stream Protection without Fencing (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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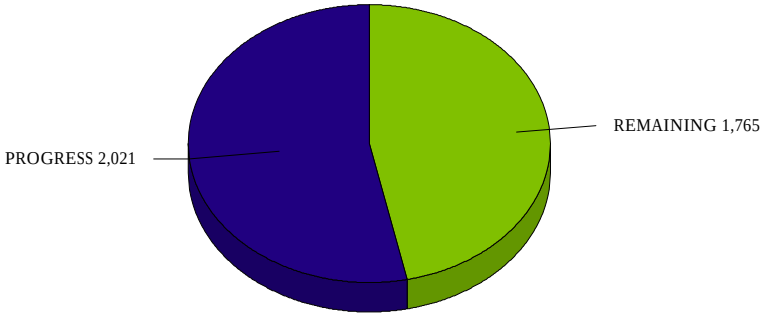
Patuxent

Forest Conservation

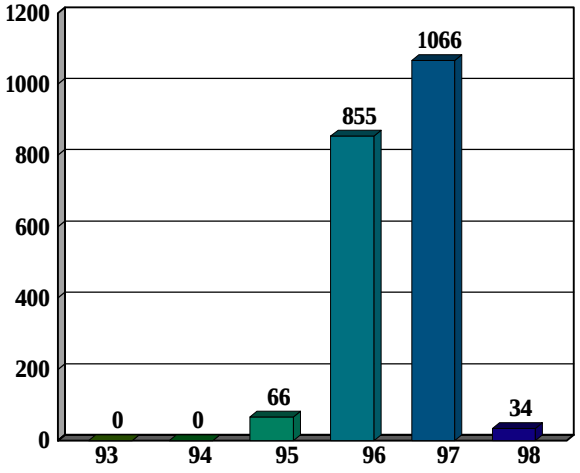
TS Goal: 3,786 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



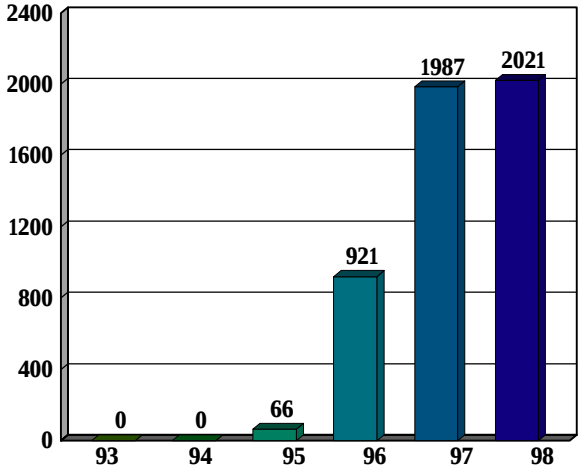
1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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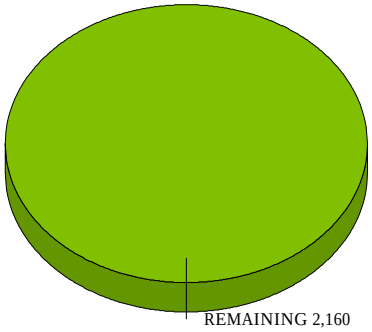
Patuxent

Forest Harvesting Practices

TS Goal: 2,160 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

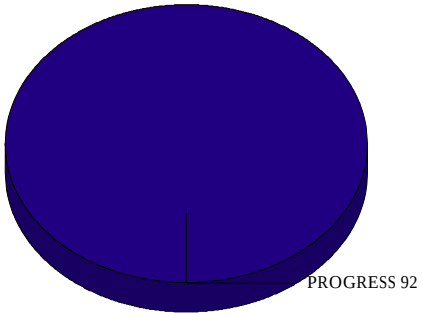
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patuxent

Forested Buffers

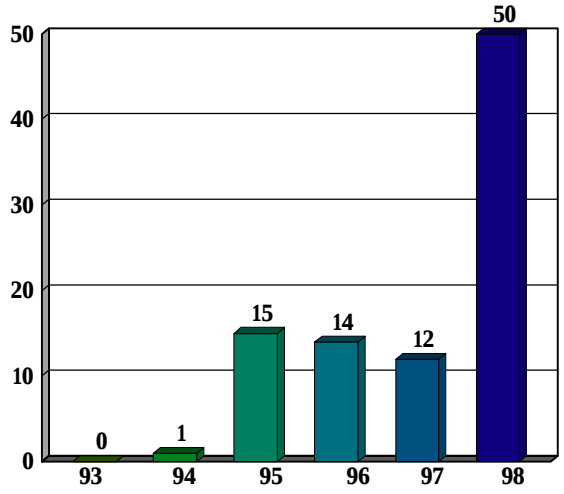
TS Goal: 66 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



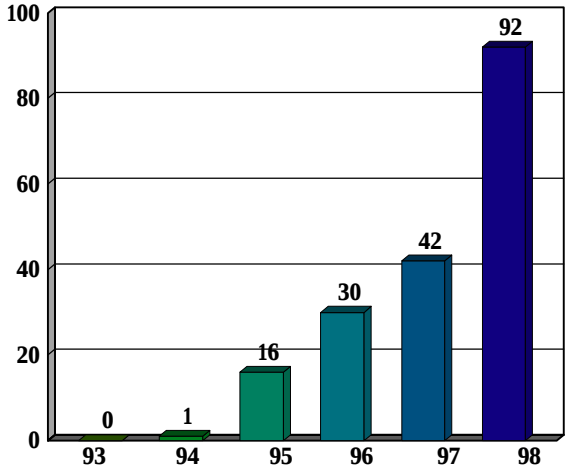
1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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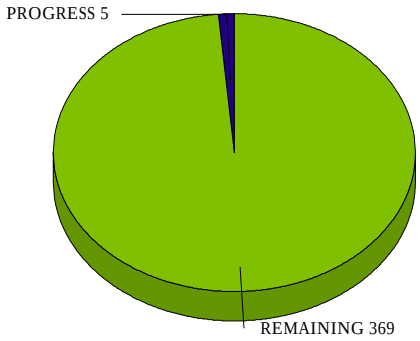
Patuxent

Grassed Buffers

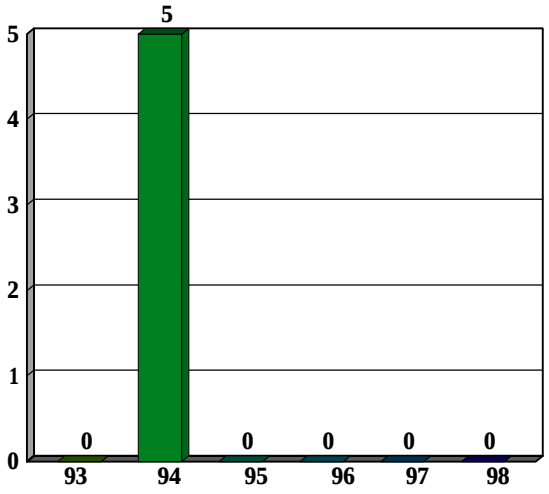
TS Goal: 374 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



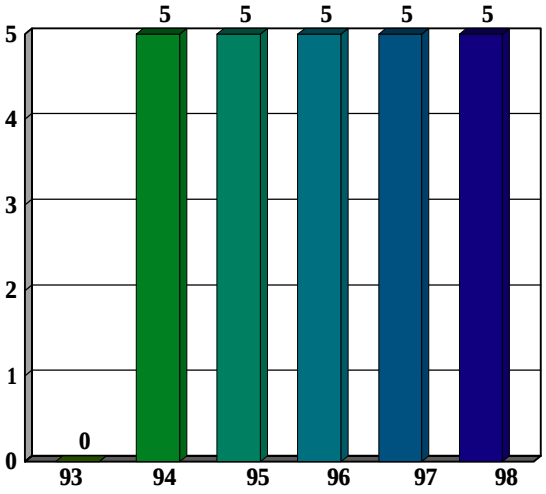
1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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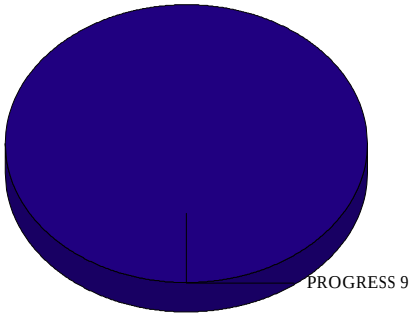
Patuxent

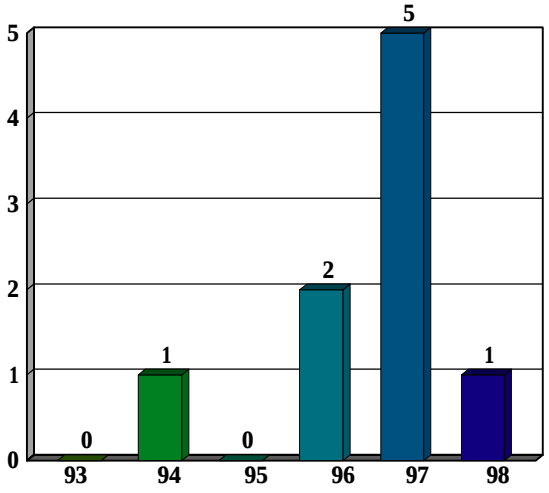
Marine Pumpouts (installation)

TS Goal: 7 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

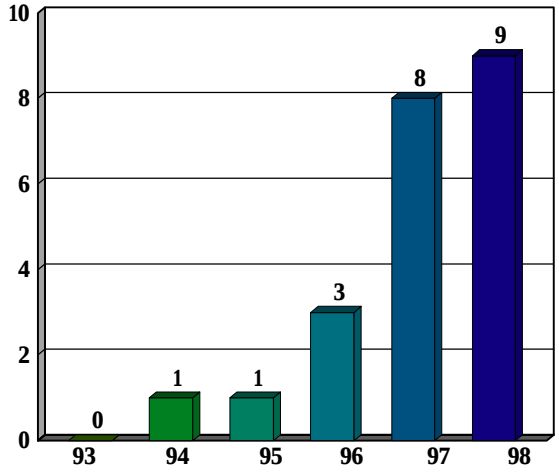


1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record
(marinas)



Annual



Cumulative

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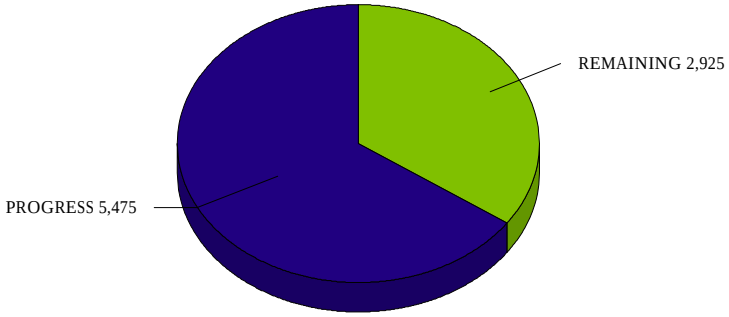
Patuxent

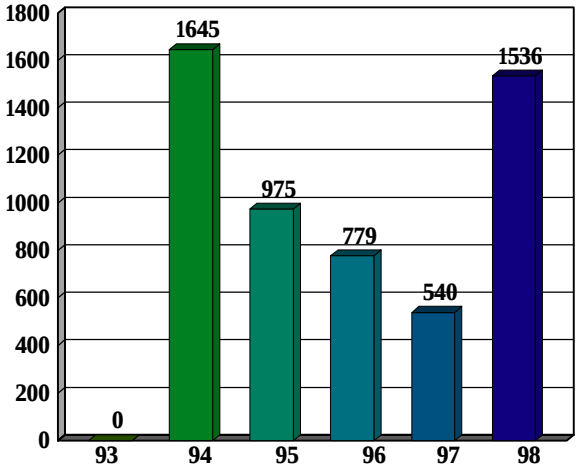
Nonstructural Shore Erosion Control

TS Goal: 8,400 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

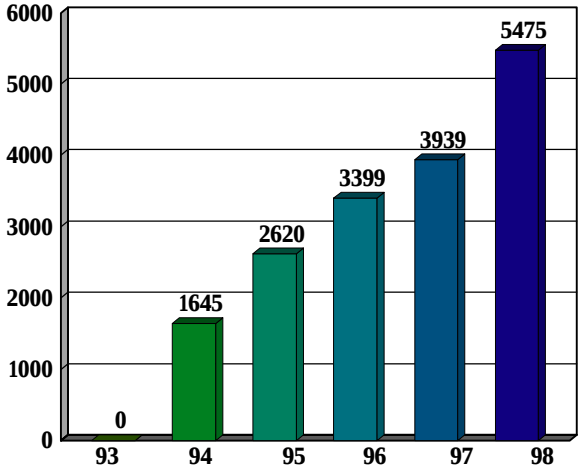


1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record
(linear feet)



Annual



Cumulative

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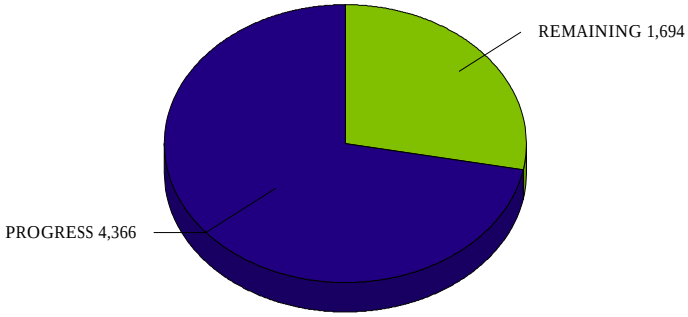
Patuxent

Structural Shore Erosion Control

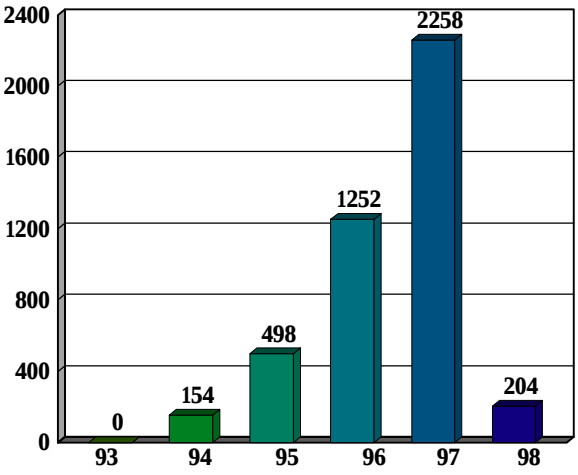
TS Goal: 6,060 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



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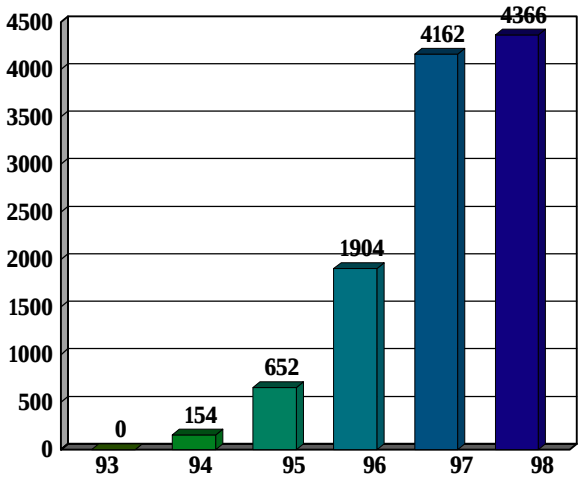

Cumulative

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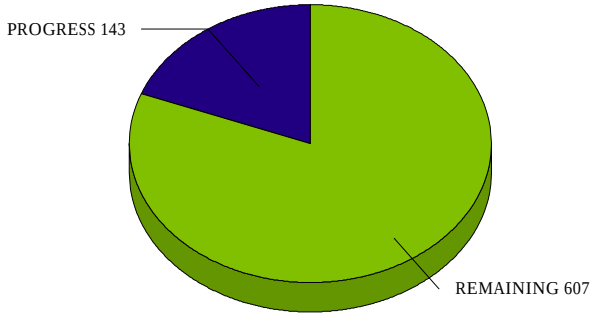
Patuxent

Tree Planting

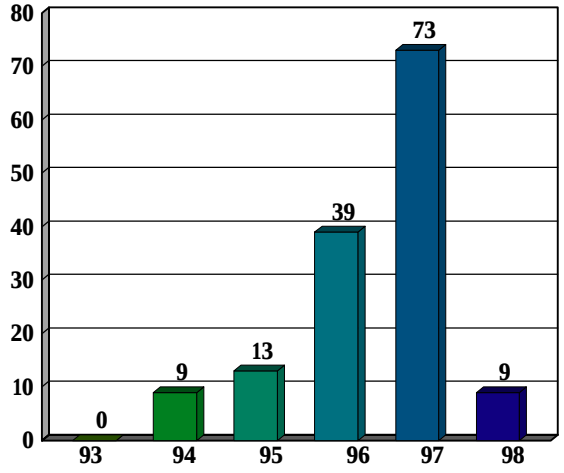
TS Goal: 750 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



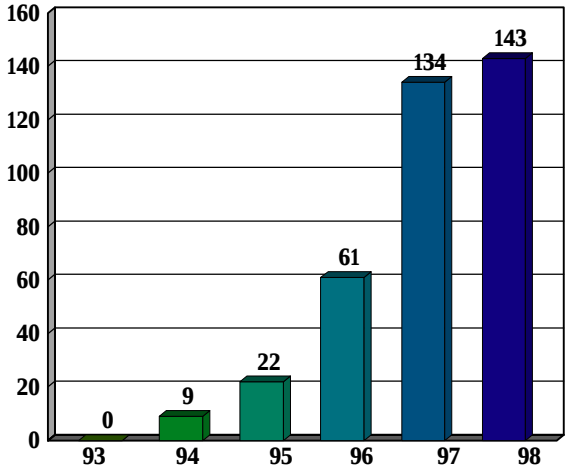
1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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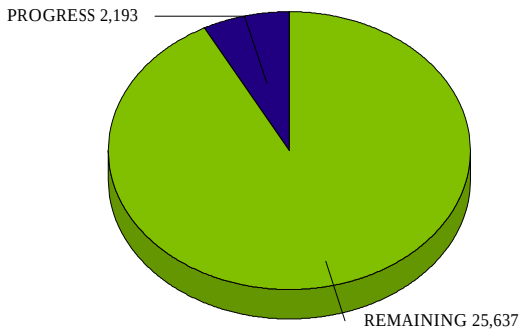
Patuxent

Enhanced Stormwater Management

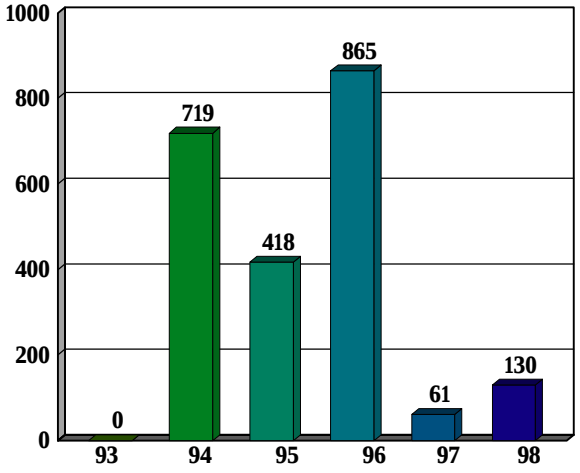
TS Goal: 27,830 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



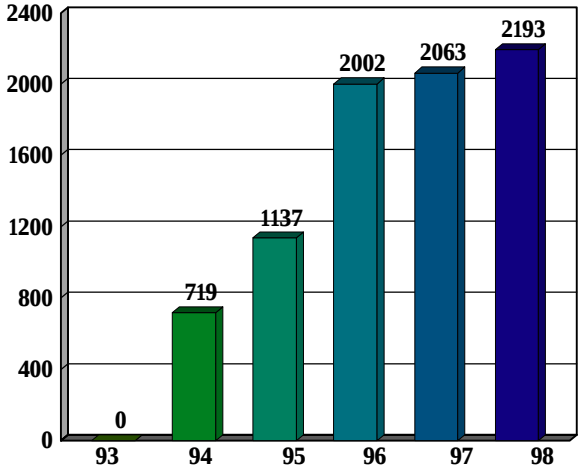
1998 Progress for Enhanced Stormwater Management (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



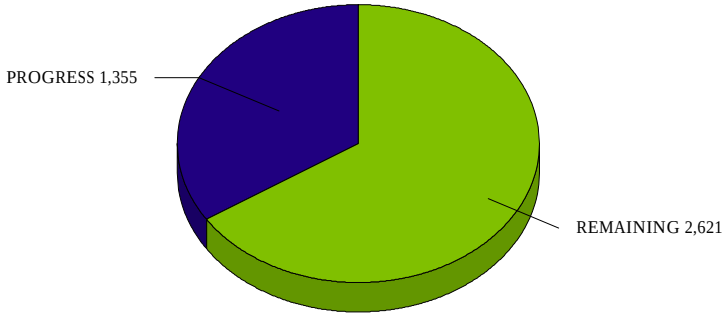
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patuxent

Erosion and Sediment Control

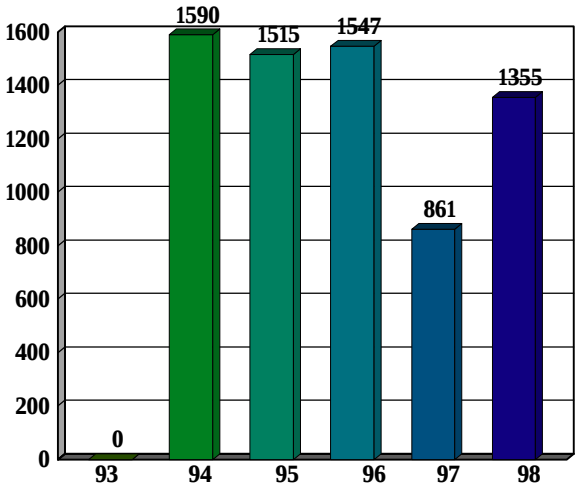
TS Goal: 3,976 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



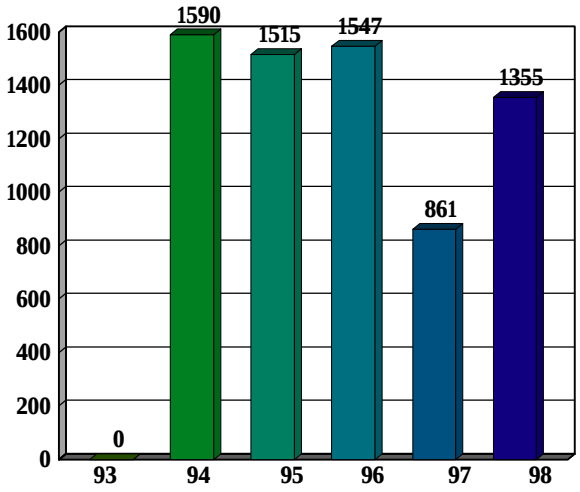
1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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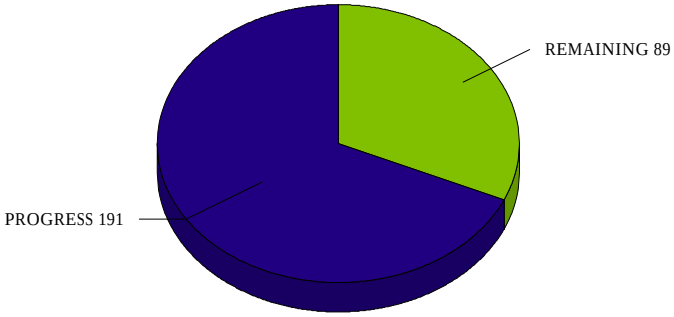
Patuxent

Septic Connections

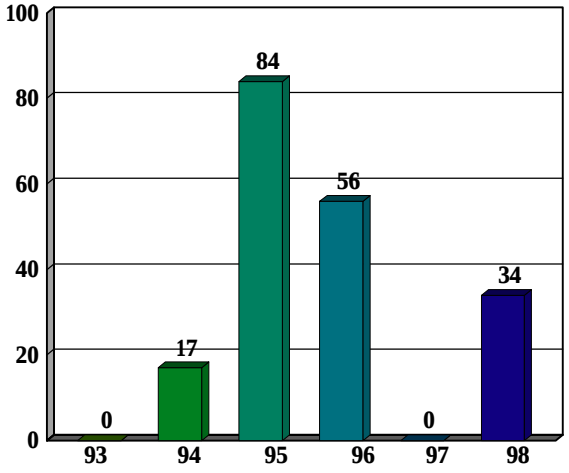
TS Goal: 280 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



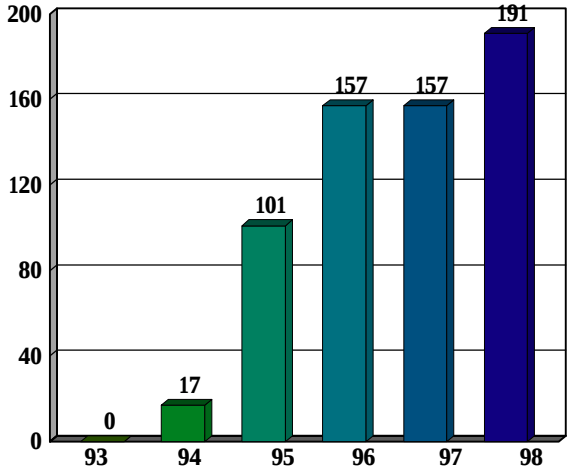
1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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Patuxent

Septic Denitrification

TS Goal: 0 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a

1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

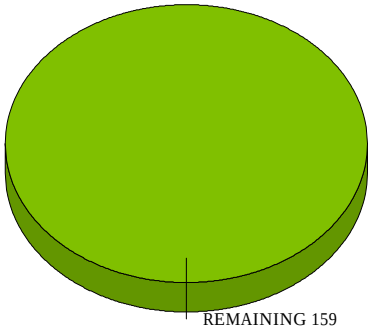
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patuxent

Septic Pumping

TS Goal: 159 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

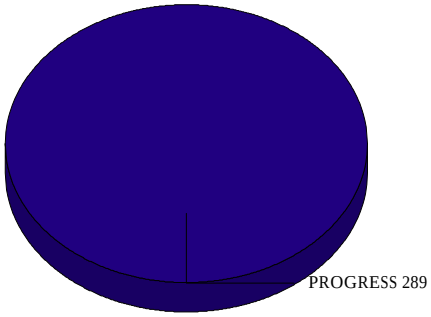
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Patuxent

Stormwater Management Conversion

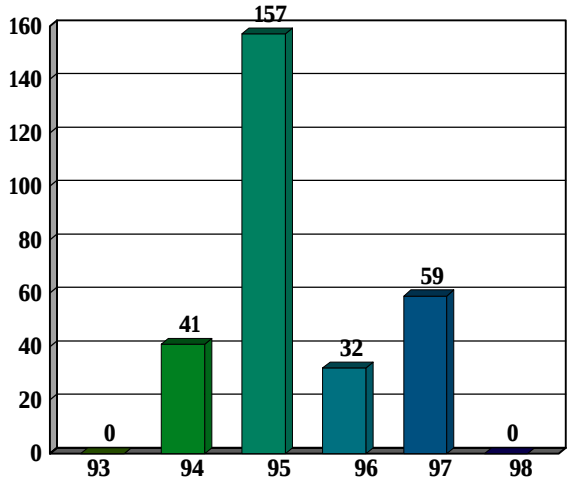
TS Goal: 225 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



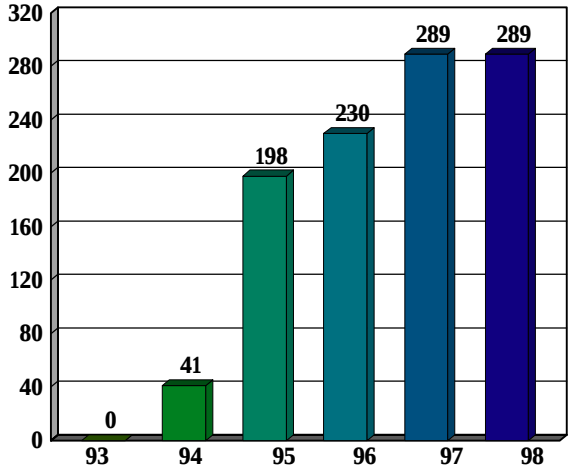
1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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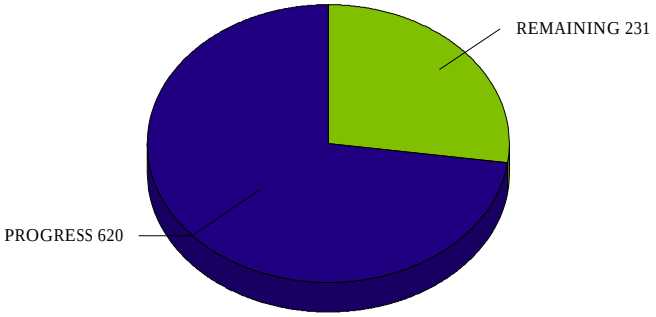
Patuxent

Stormwater Management Retrofits

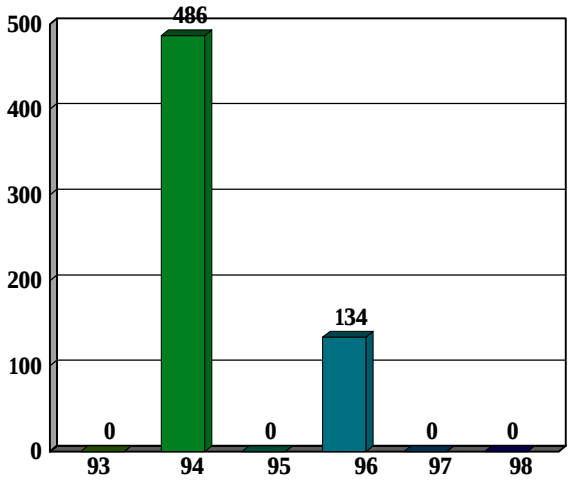
TS Goal: 851 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



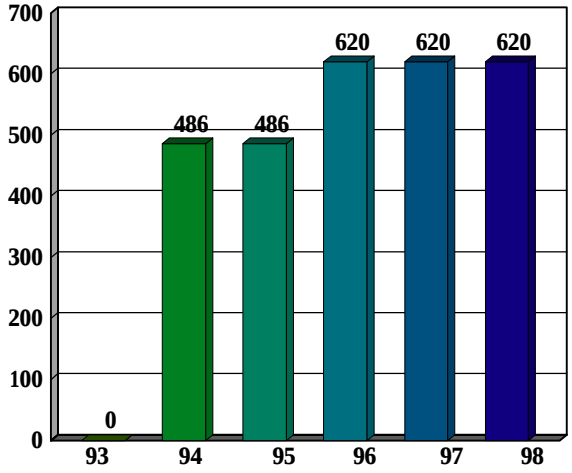
1998 Progress for Stormwater Management Retrofits
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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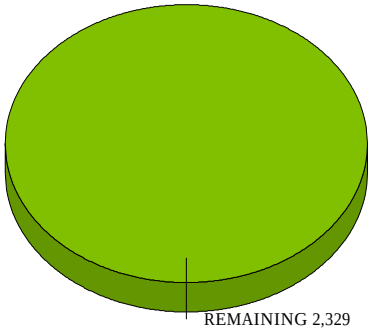
Patuxent

Urban Nutrient Management

TS Goal: 2,329 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual **Cumulative**

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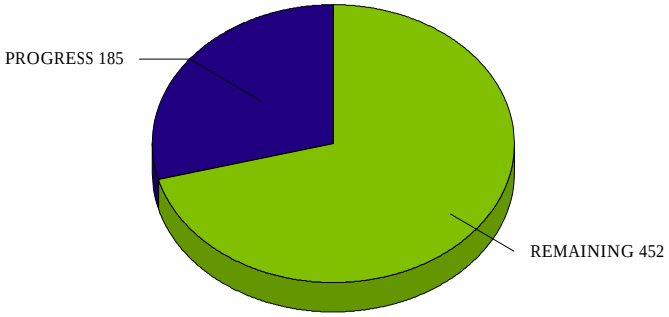
Statewide

Animal Waste Management Systems: Livestock

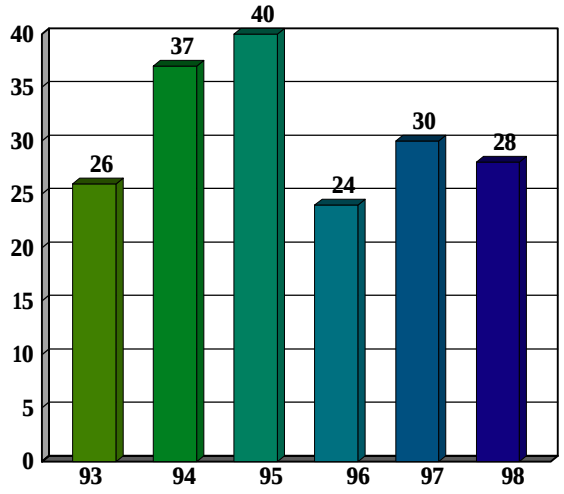
TS Goal: 637 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



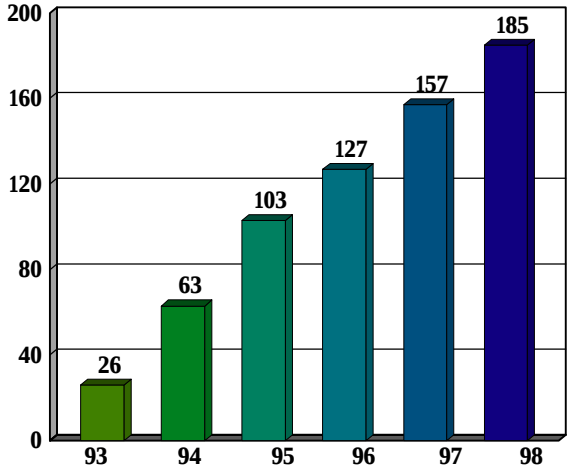
1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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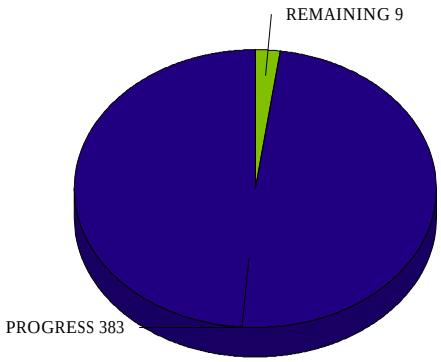
Statewide

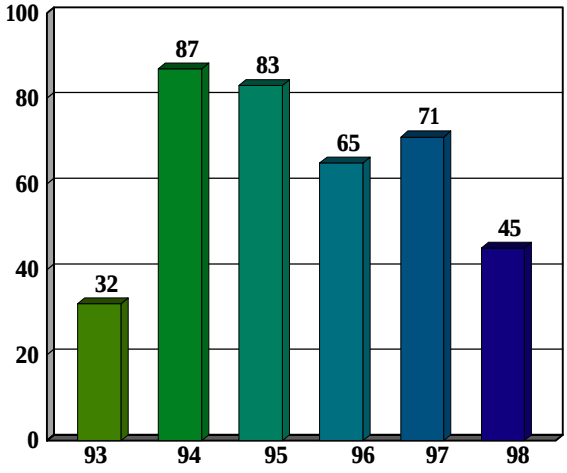
Animal Waste Management Systems: Poultry

TS Goal: 392 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

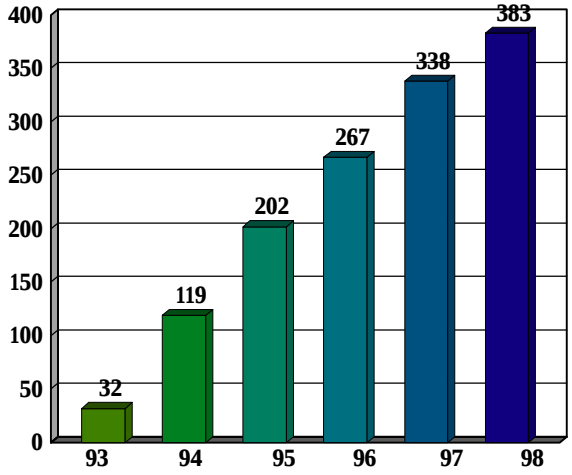


1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)



Annual



Cumulative

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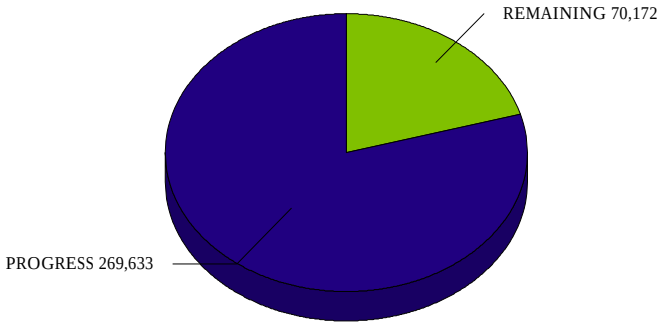
Statewide

Conservation Tillage

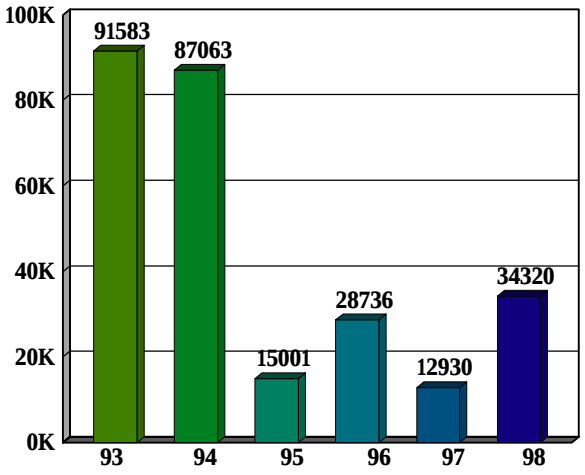
TS Goal: 339,805 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



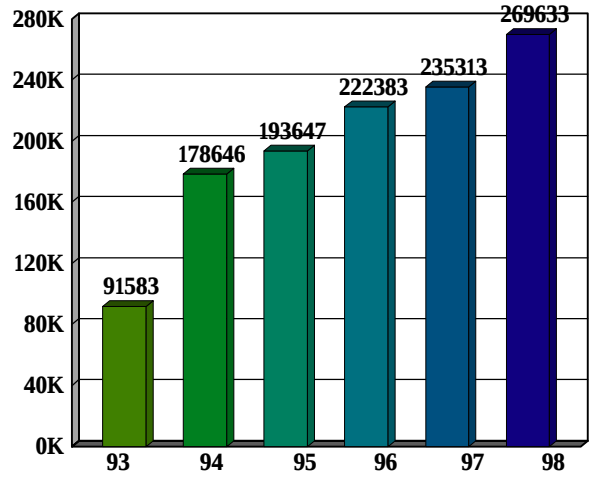
1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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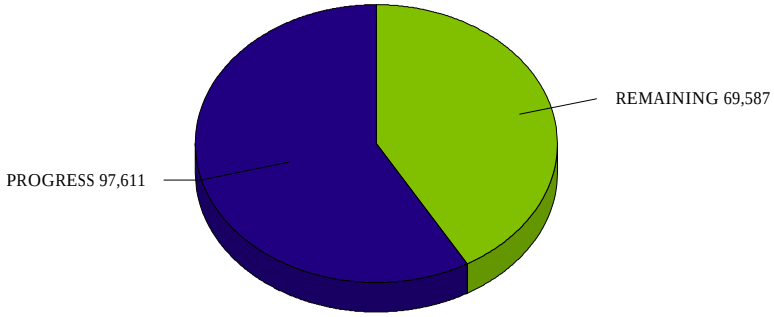
Statewide

Cover Crops

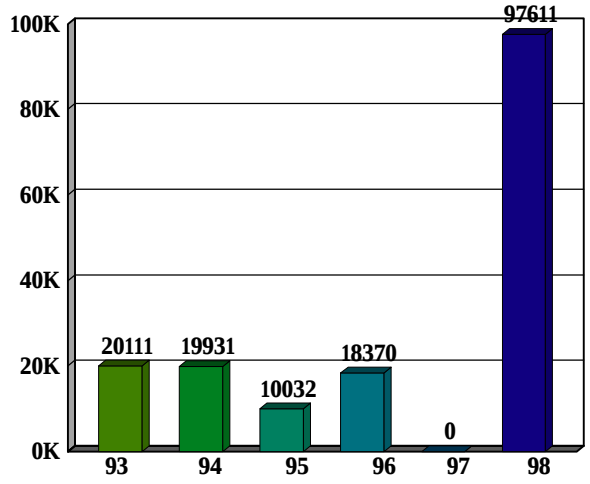
TS Goal: 167,198 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



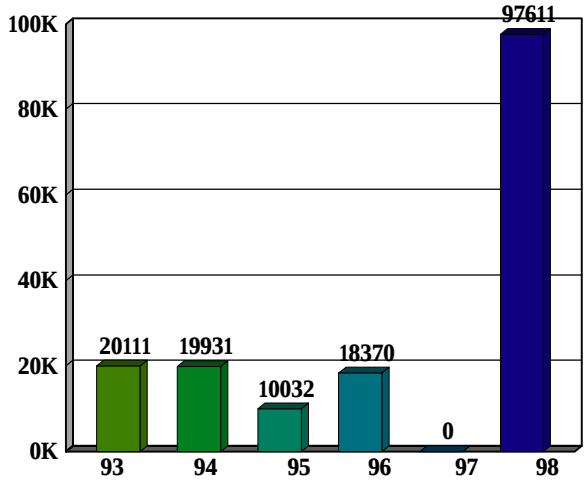
1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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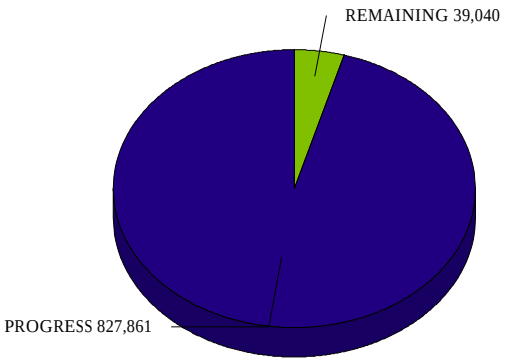
Statewide

Nutrient Management Plan Implementation

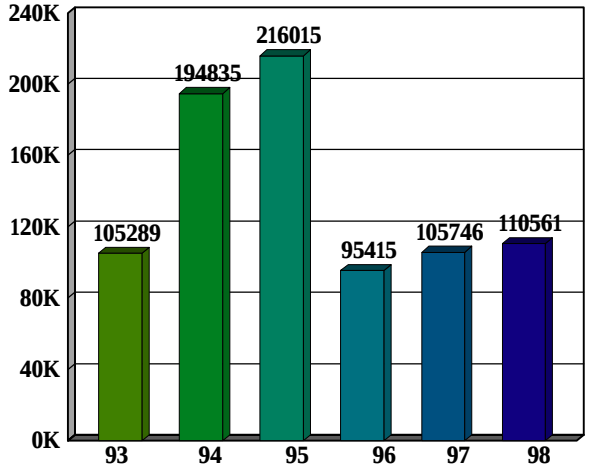
TS Goal: 866,901 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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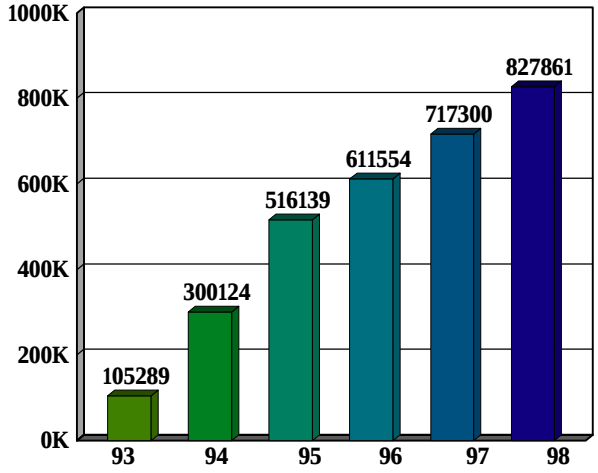

Cumulative

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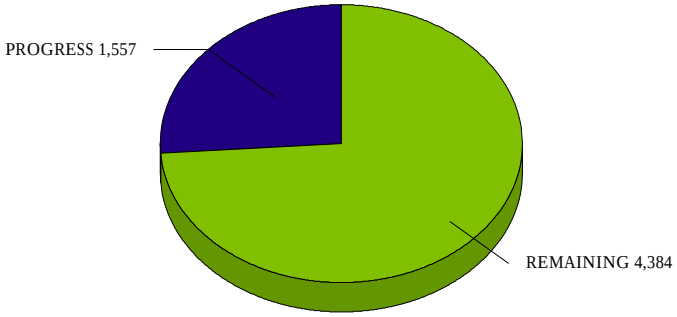
Statewide

Retirement of Highly Erodible Land

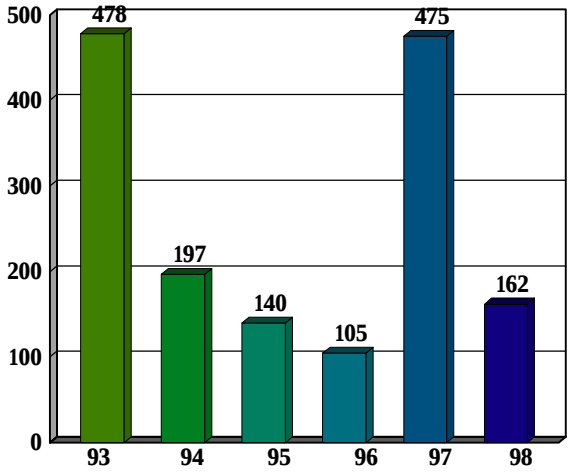
TS Goal: 5,941 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



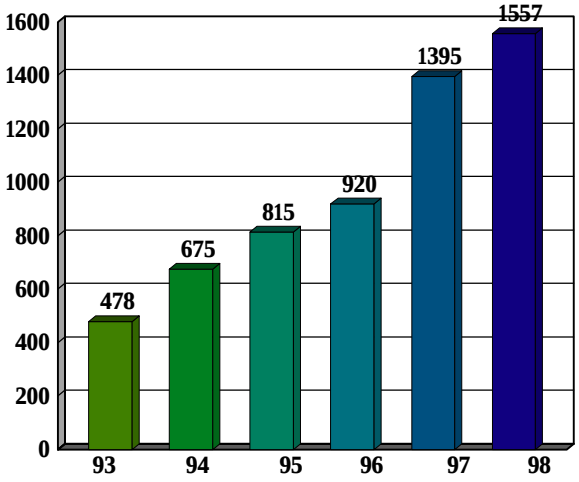
1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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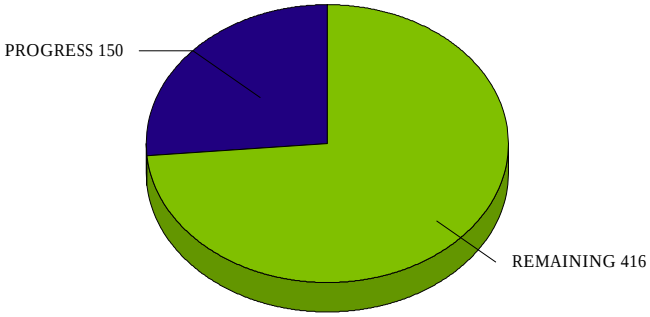
Statewide

Runoff Control

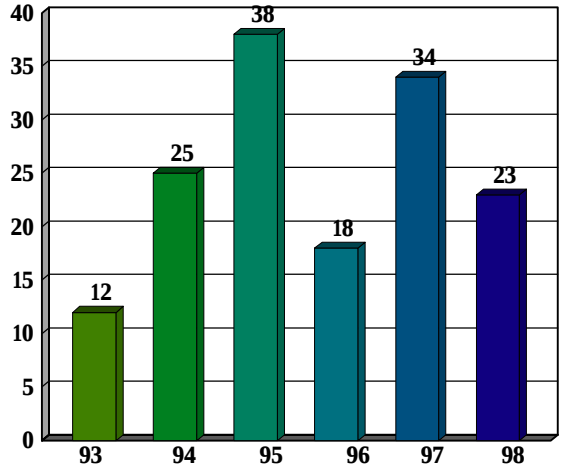
TS Goal: 566 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



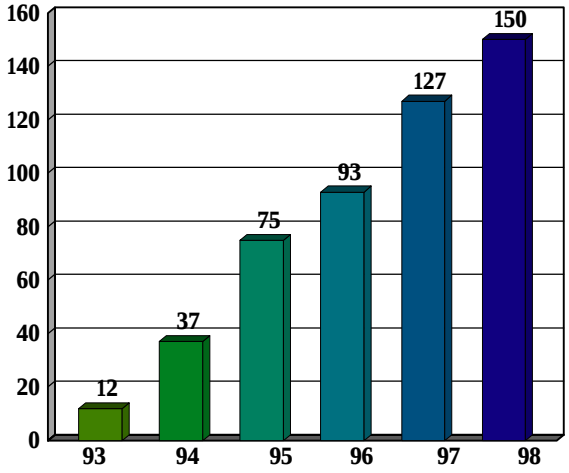
1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



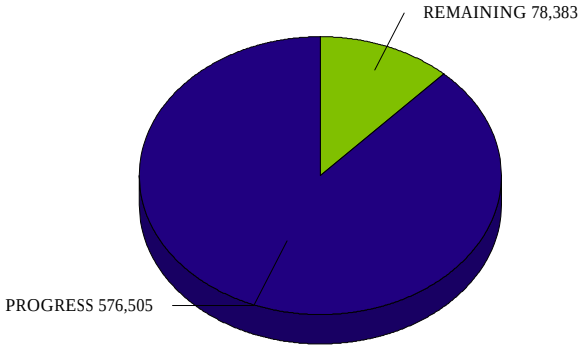
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Statewide

SCWQP Implementation and Treatment of Highly Erodible Land

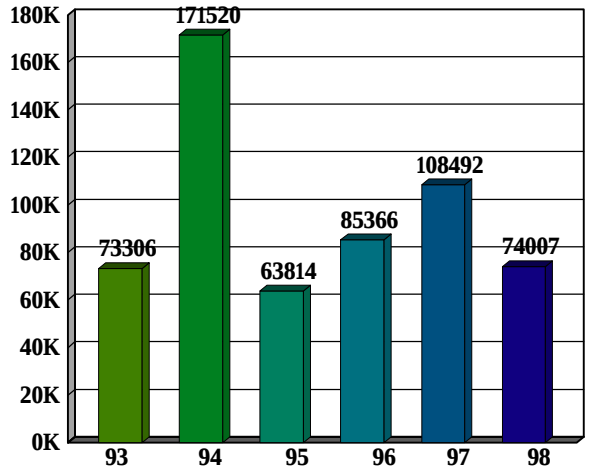
TS Goal: 654,888 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



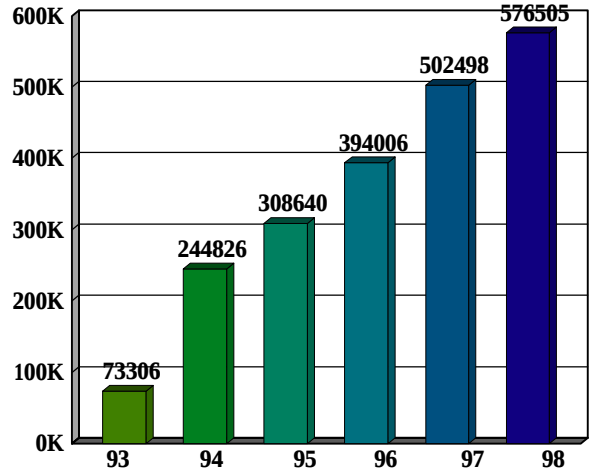
1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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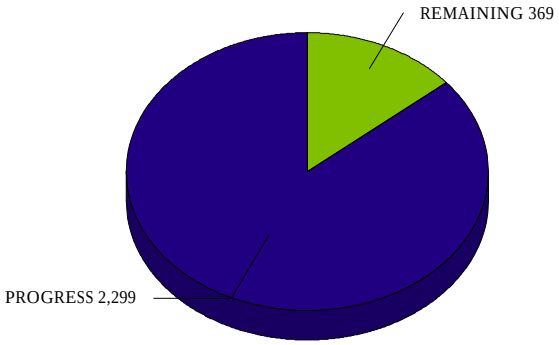
Statewide

Stream Protection with Fencing

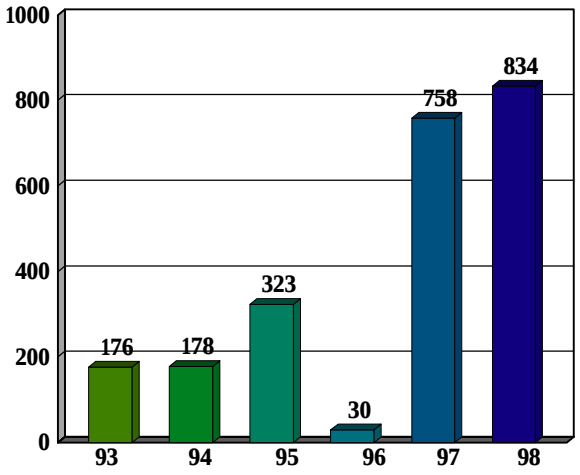
TS Goal: 2,668 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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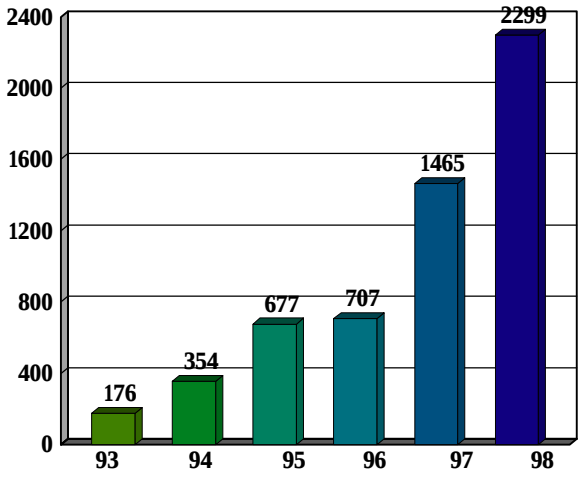

Cumulative

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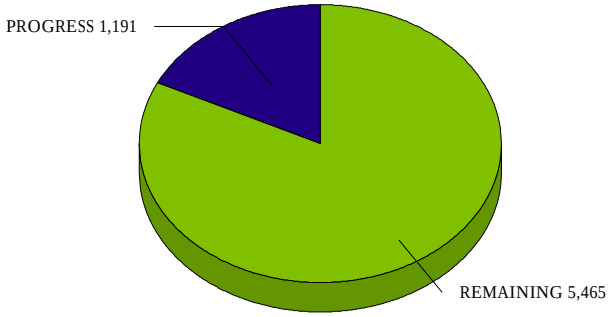
Statewide

Stream Protection without Fencing

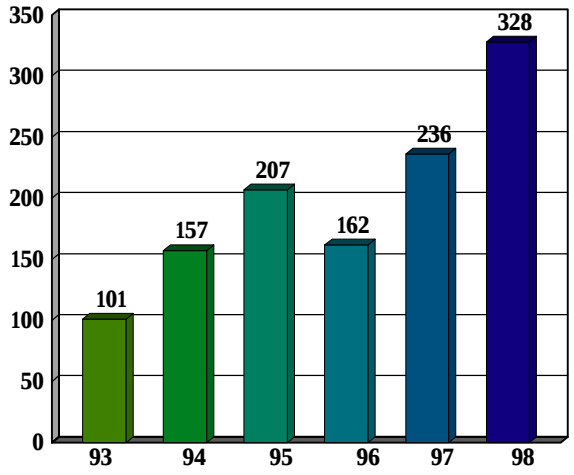
TS Goal: 6,656 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



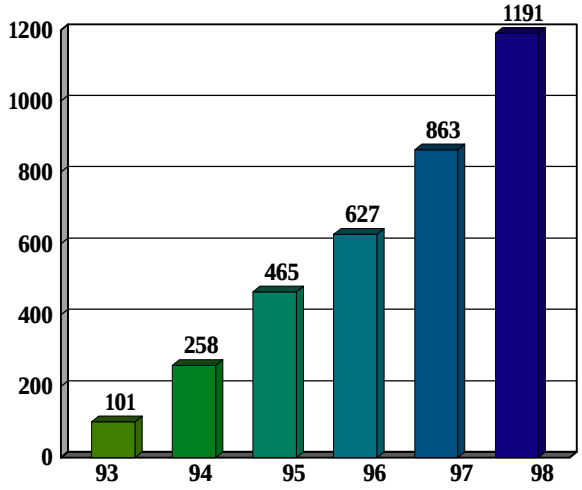
1998 Progress for Stream Protection without Fencing (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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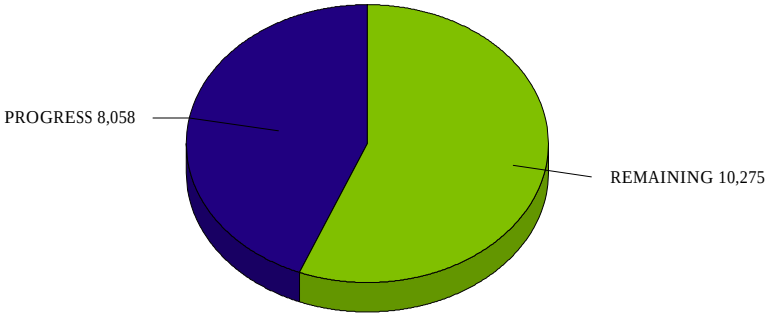
Statewide

Forest Conservation

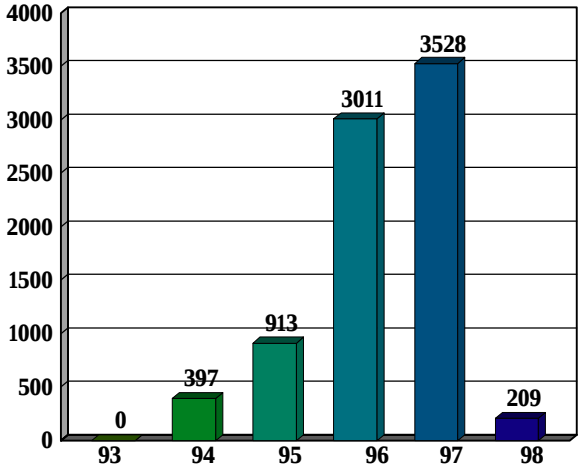
TS Goal: 18,333 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



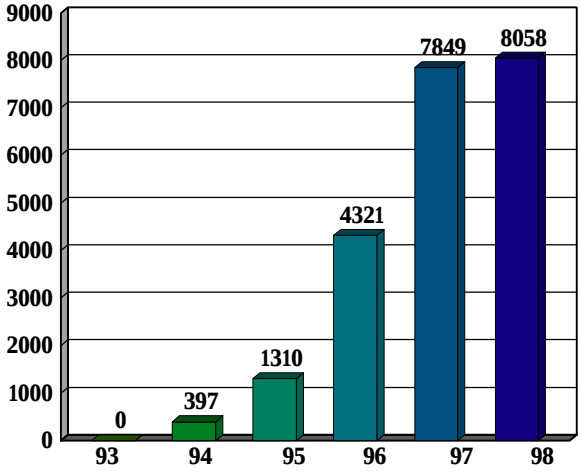
1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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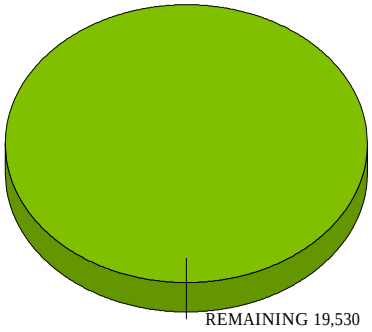
Statewide

Forest Harvesting Practices

TS Goal: 19,530 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

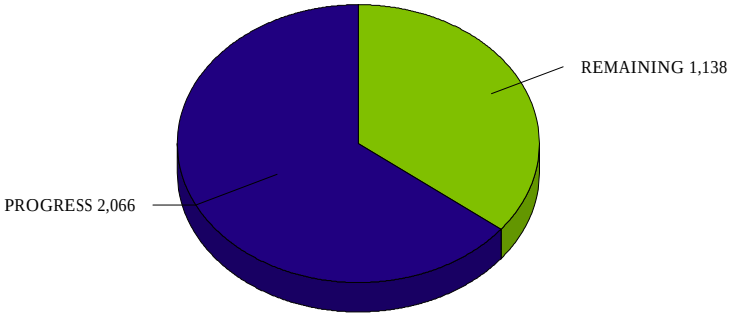
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Statewide

Forested Buffers

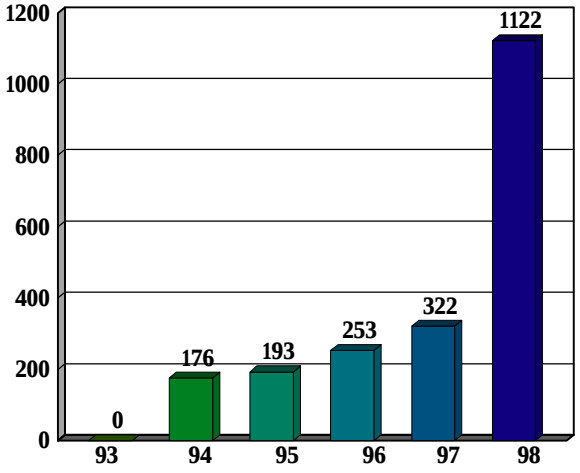
TS Goal: 3,204 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



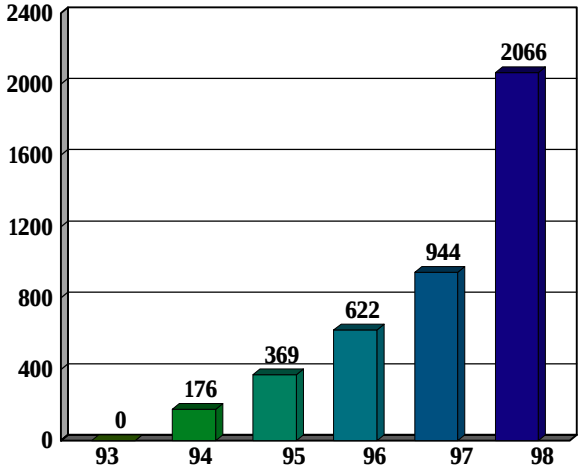
1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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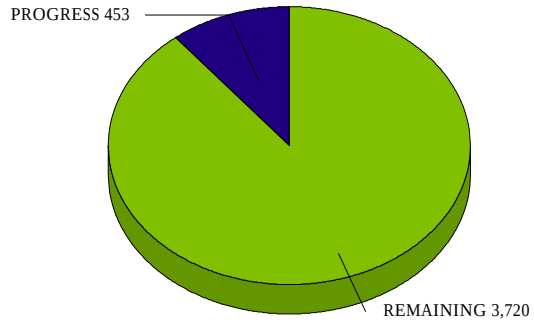
Statewide

Grassed Buffers

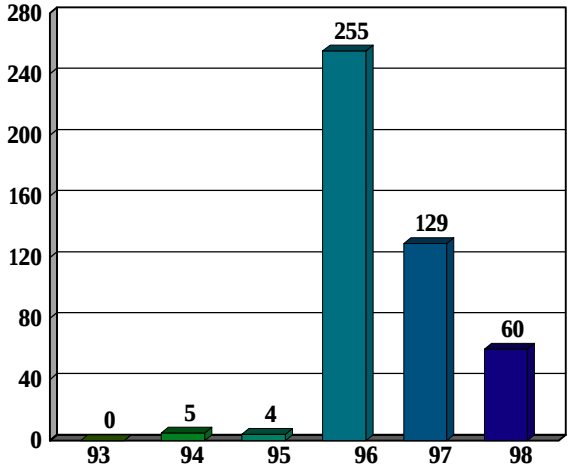
TS Goal: 4,173 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



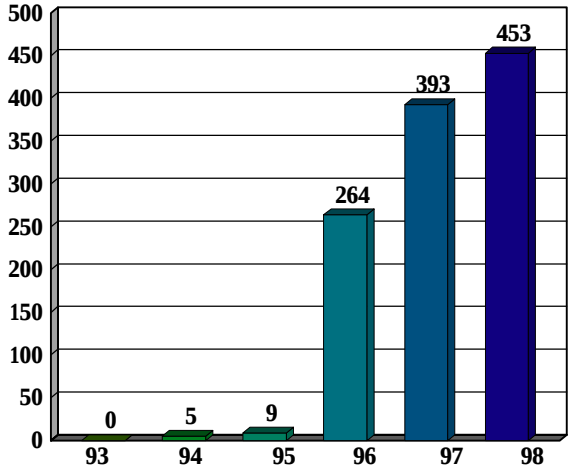
1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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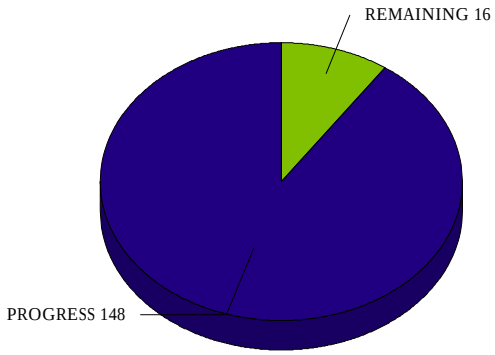
Statewide

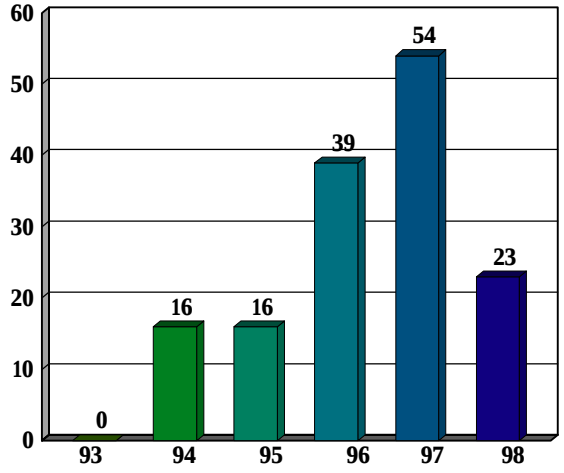
Marine Pumpouts (installation)

TS Goal: 164 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

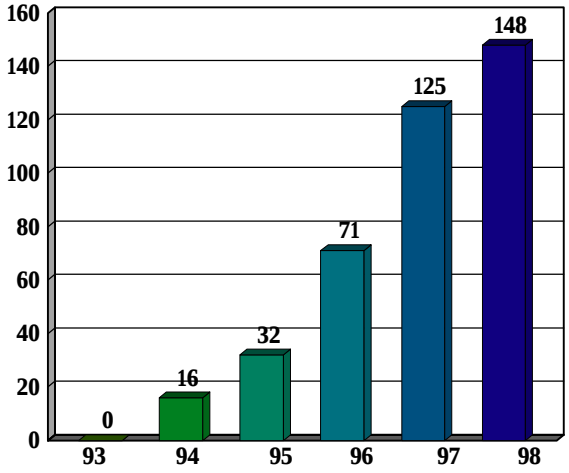


1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record
(marinas)



Annual



Cumulative

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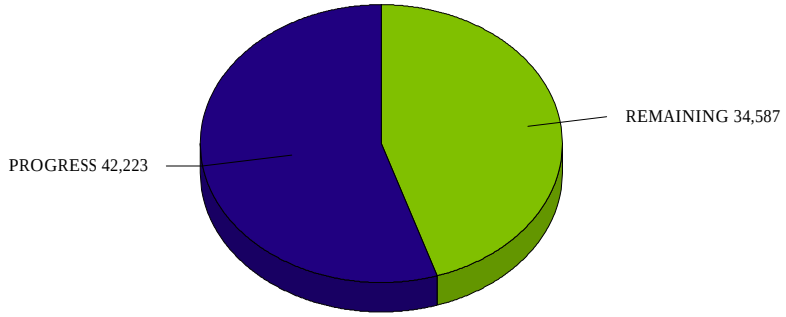
Statewide

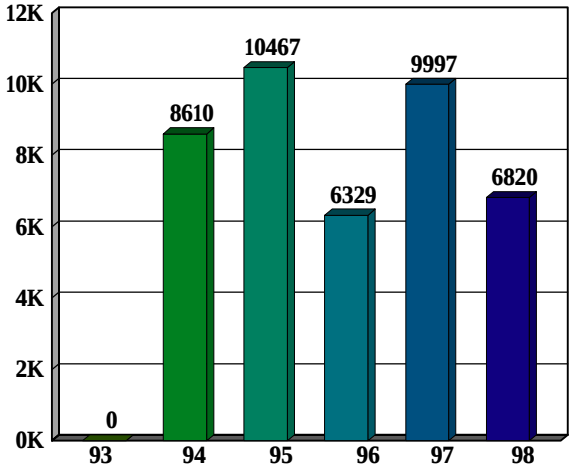
Nonstructural Shore Erosion Control

TS Goal: 76,810 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

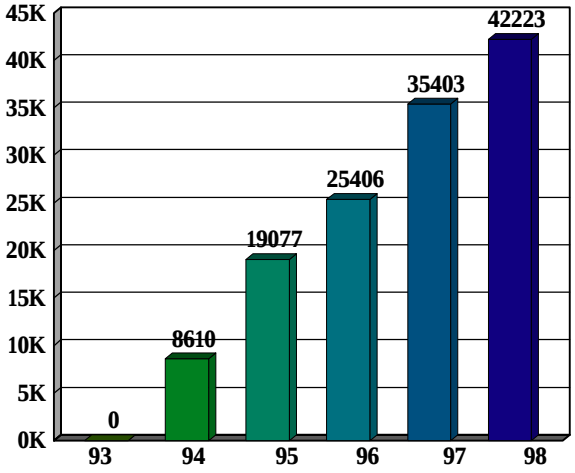


1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record
(linear feet)



Annual



Cumulative

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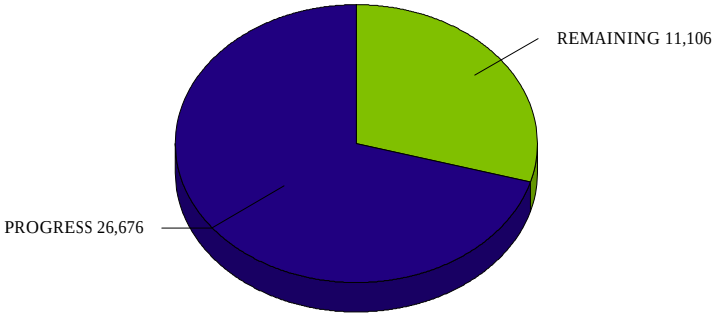
Statewide

Structural Shore Erosion Control

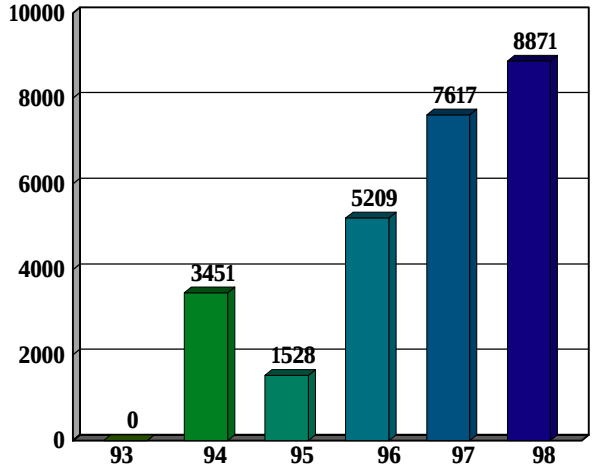
TS Goal: 37,782 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



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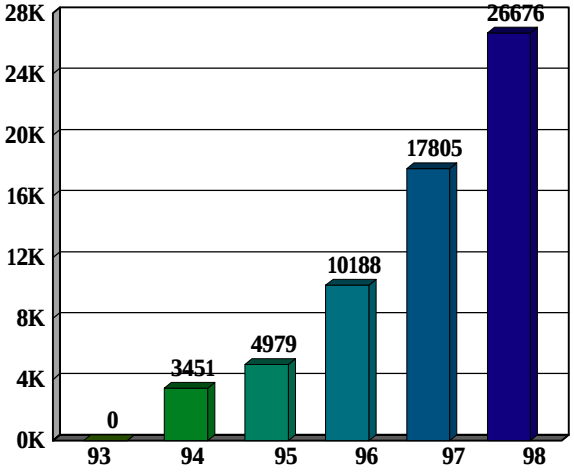

Cumulative

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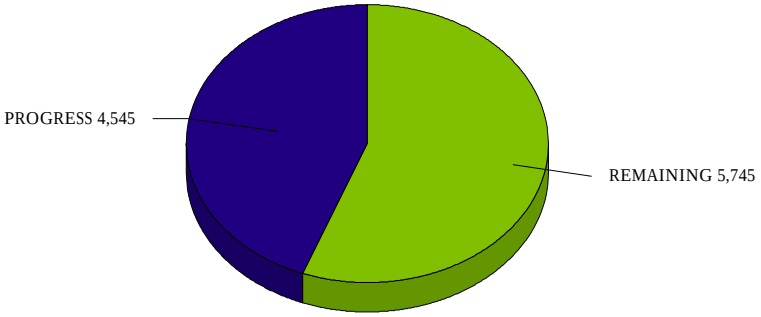
Statewide

Tree Planting

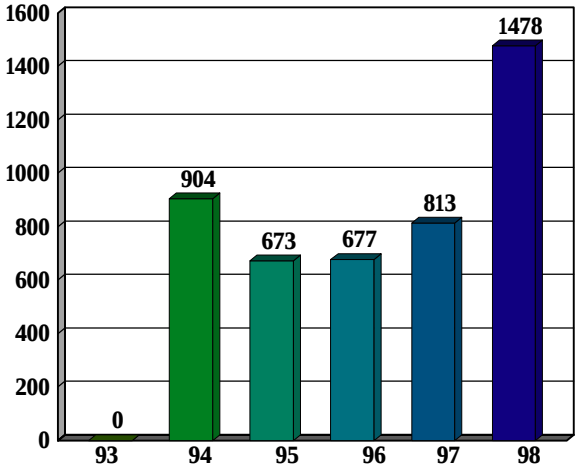
TS Goal: 10,290 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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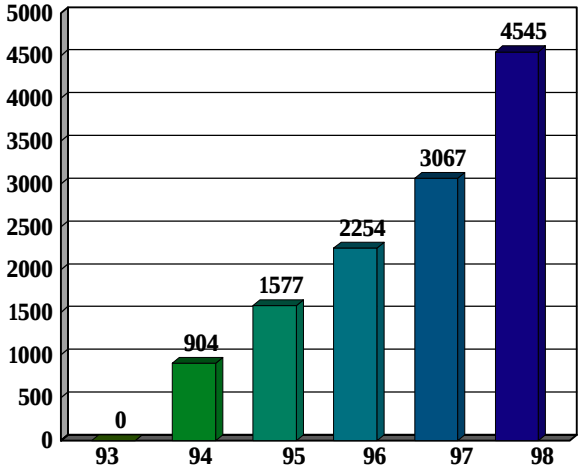

Cumulative

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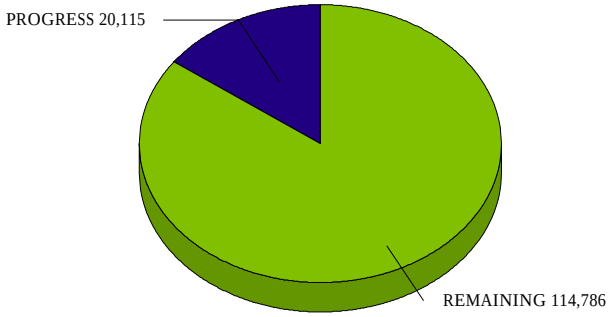
Statewide

Enhanced Stormwater Management

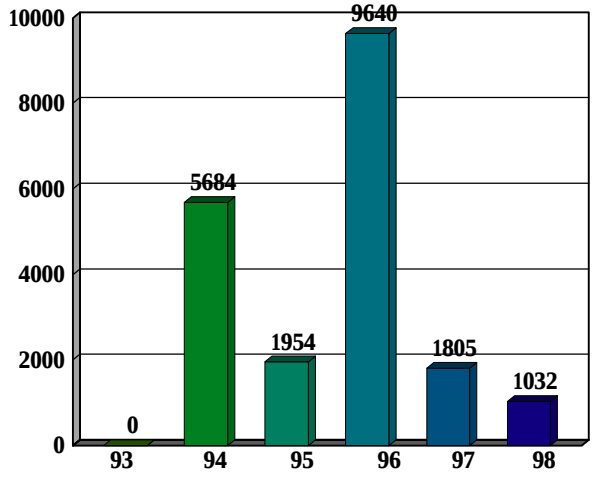
TS Goal: 134,901 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



1998 Progress for Enhanced Stormwater Management (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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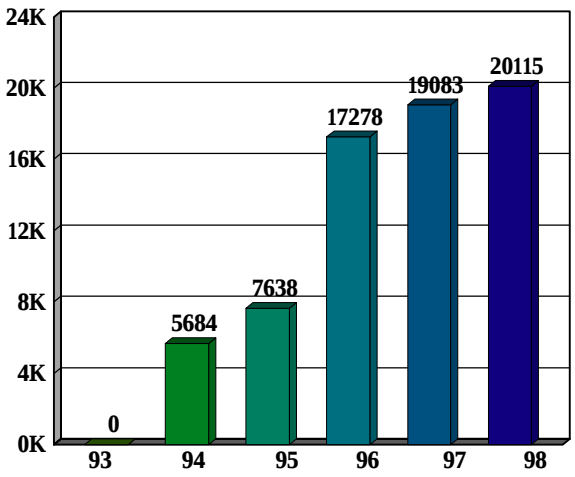


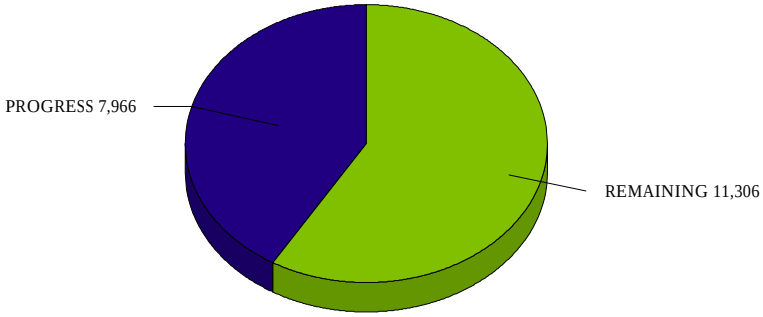
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Statewide

Erosion and Sediment Control

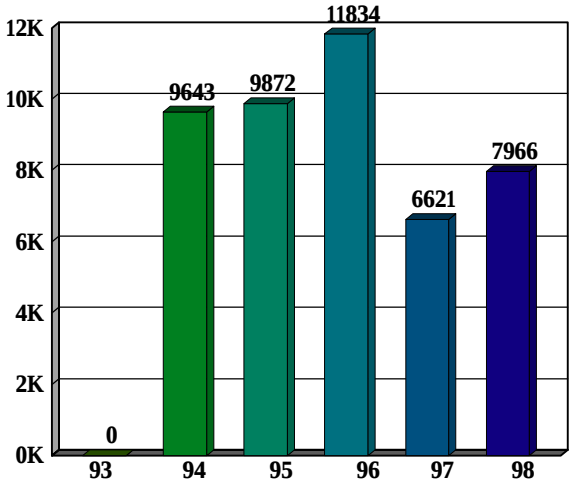
TS Goal: 19,272 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



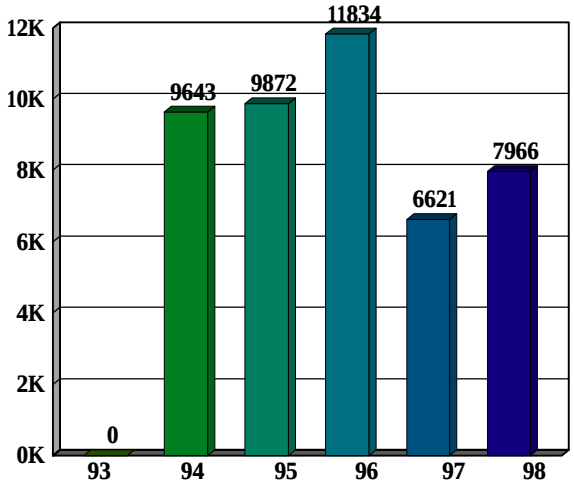
1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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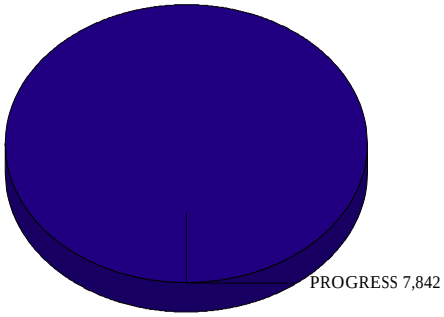
Statewide

Septic Connections

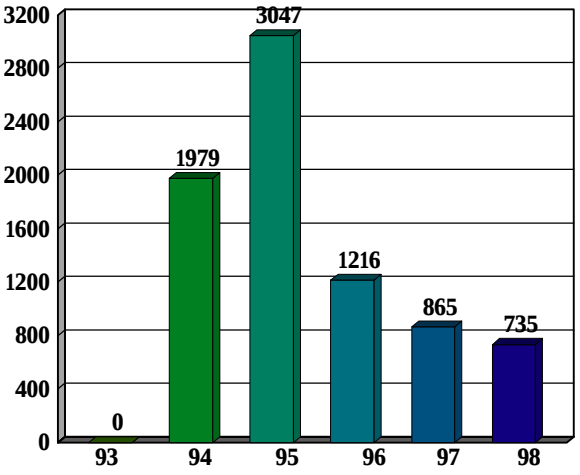
TS Goal: 5,946 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



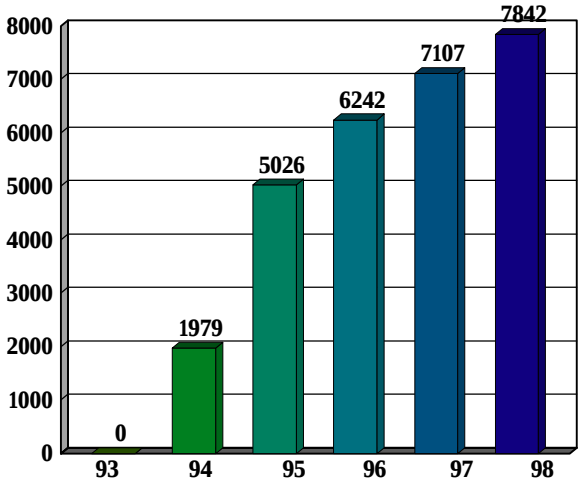
1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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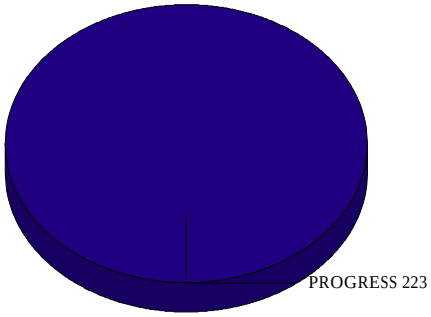
Statewide

Septic Denitrification

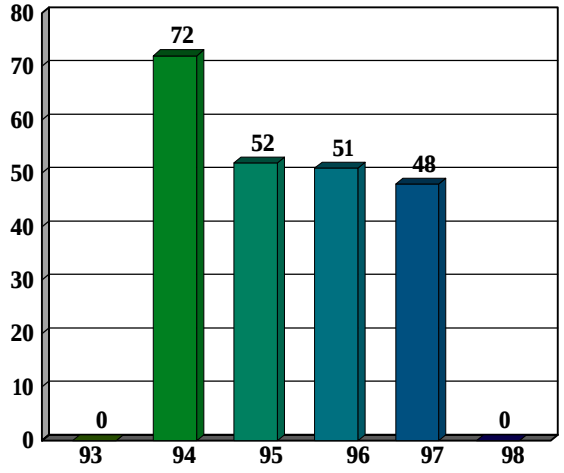
TS Goal: 101 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



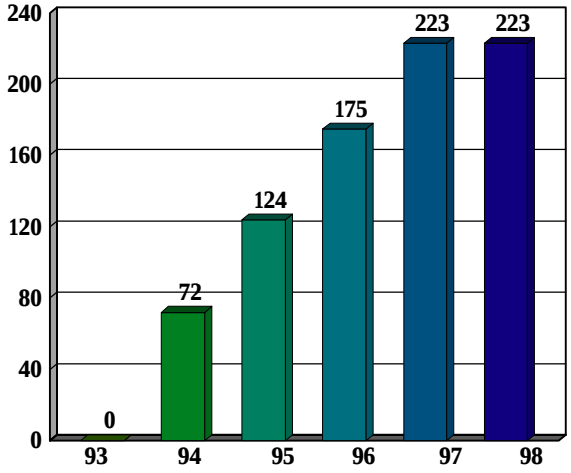
1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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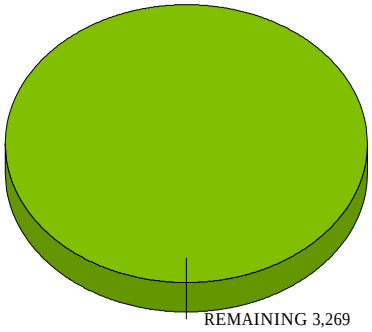
Statewide

Septic Pumping

TS Goal: 3,269 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

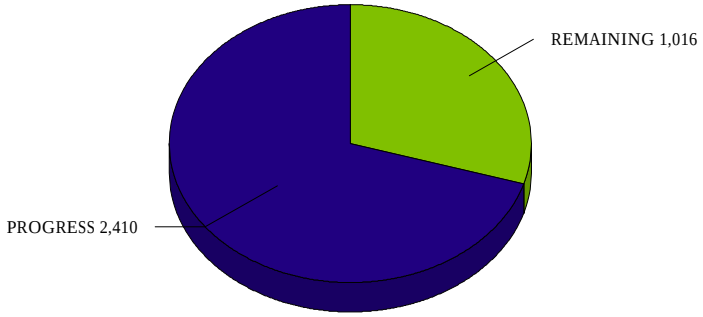
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Statewide

Stormwater Management Conversion

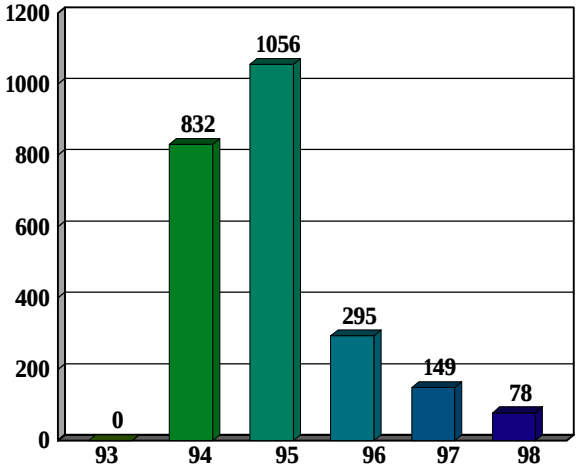
TS Goal: 3,426 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



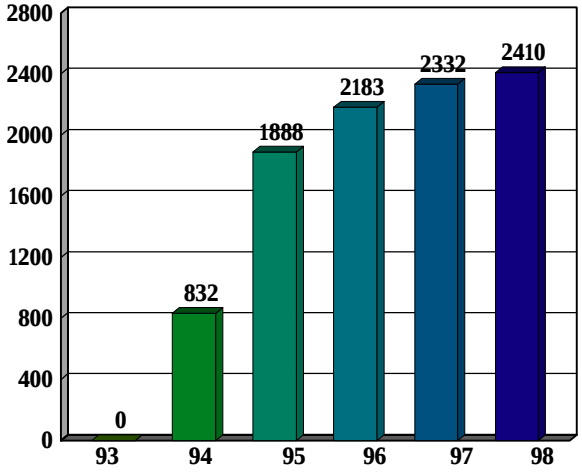
1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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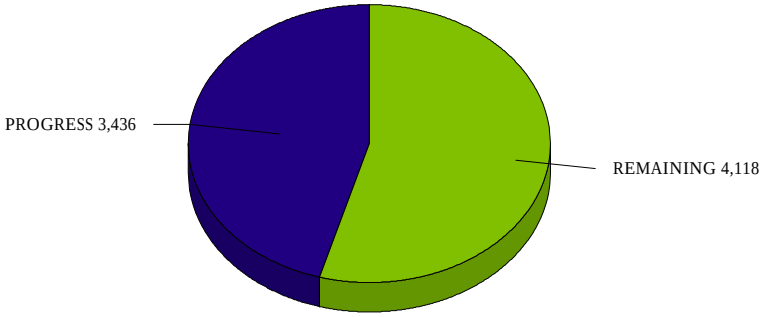
Statewide

Stormwater Management Retrofits

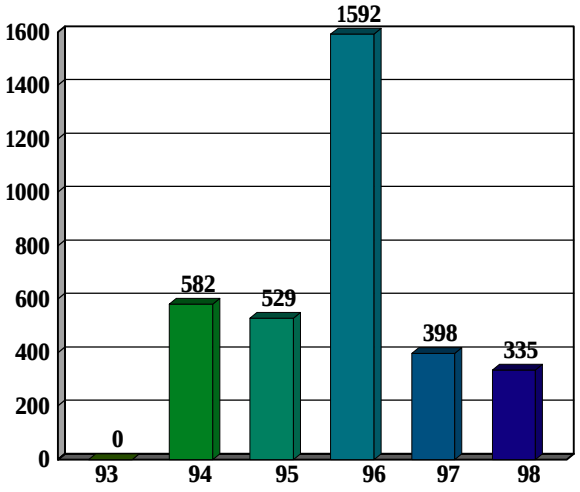
TS Goal: 7,554 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Retrofits
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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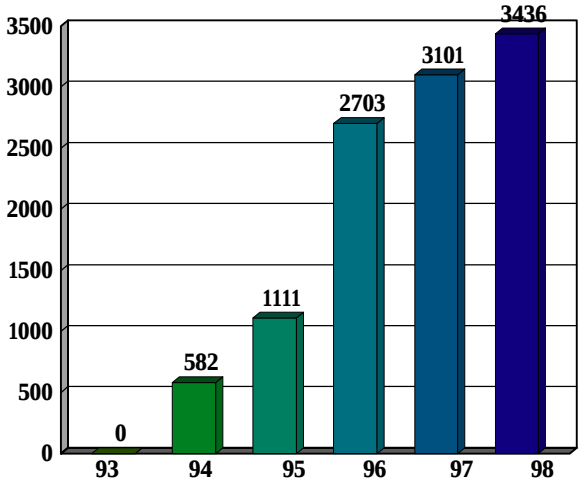

Cumulative

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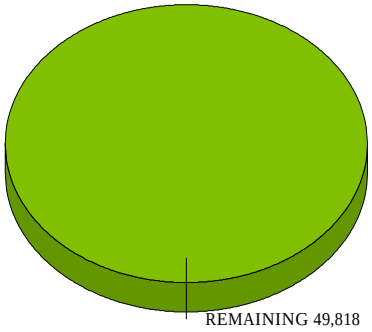
Statewide

Urban Nutrient Management

TS Goal: 49,818 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual **Cumulative**

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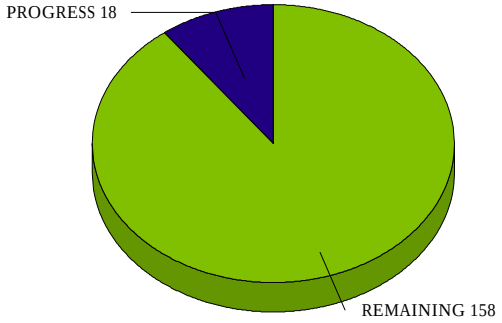
Upper Eastern Shore

Animal Waste Management Systems: Livestock

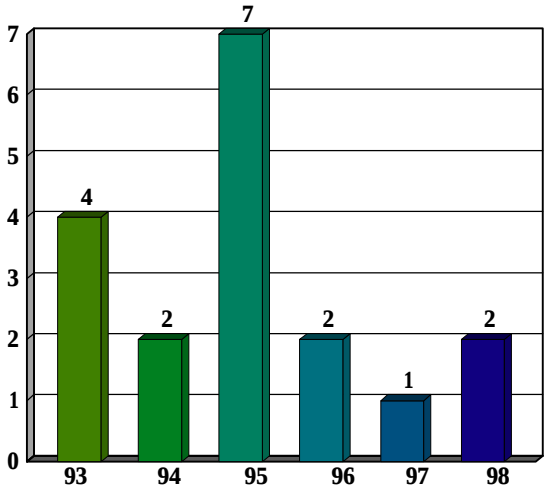
TS Goal: 176 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



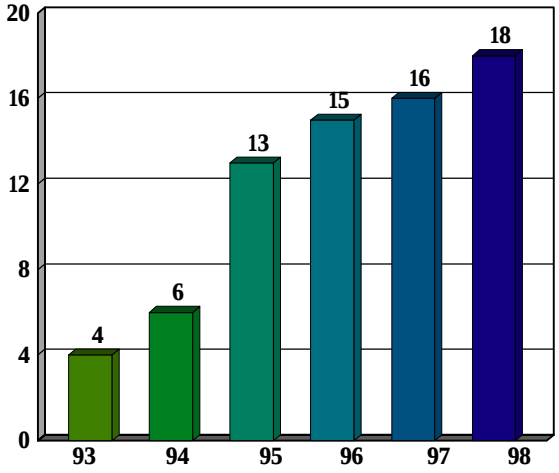
1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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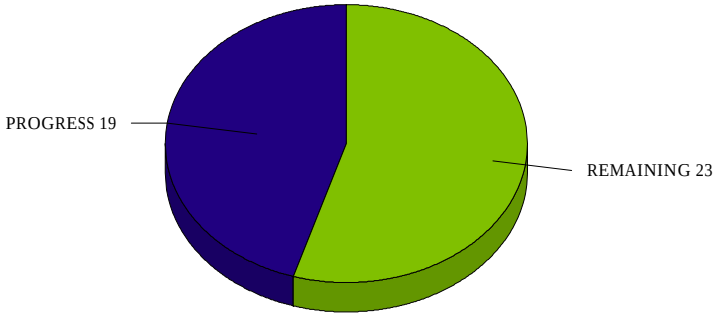
Upper Eastern Shore

Animal Waste Management Systems: Poultry

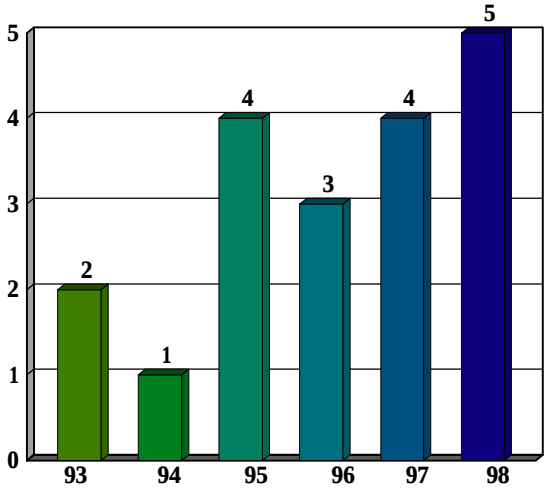
TS Goal: 42 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



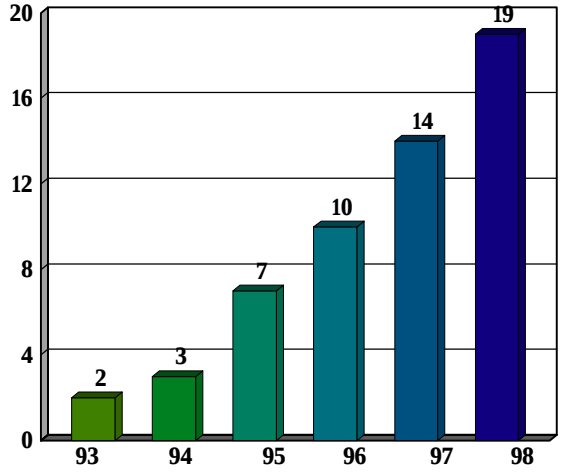
1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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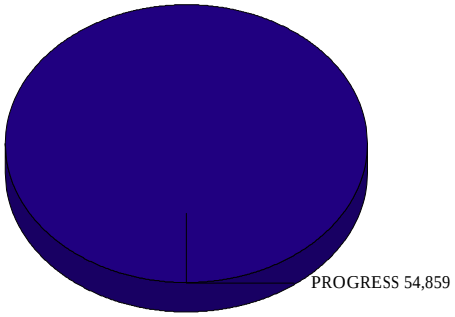
Upper Eastern Shore

Conservation Tillage

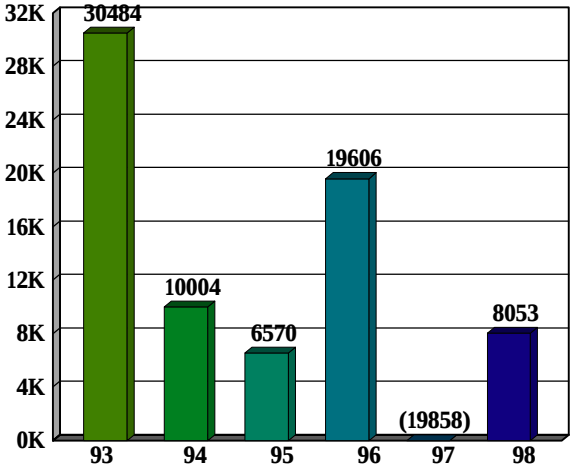
TS Goal: 48,078 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



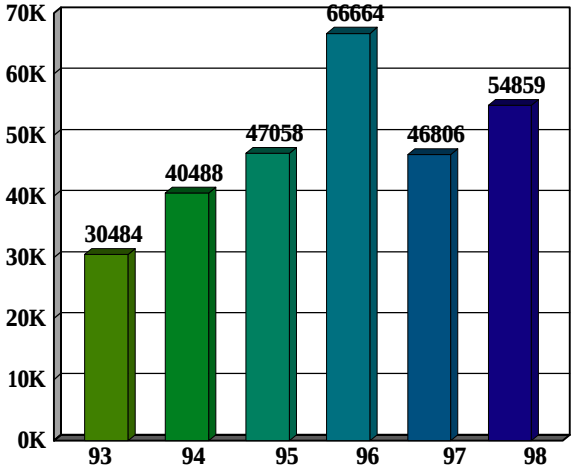
1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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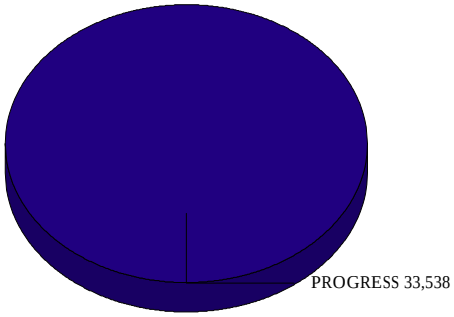
Upper Eastern Shore

Cover Crops

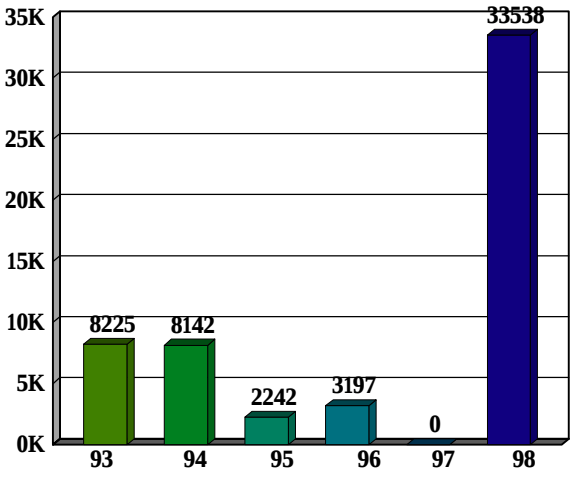
TS Goal: 19,182 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



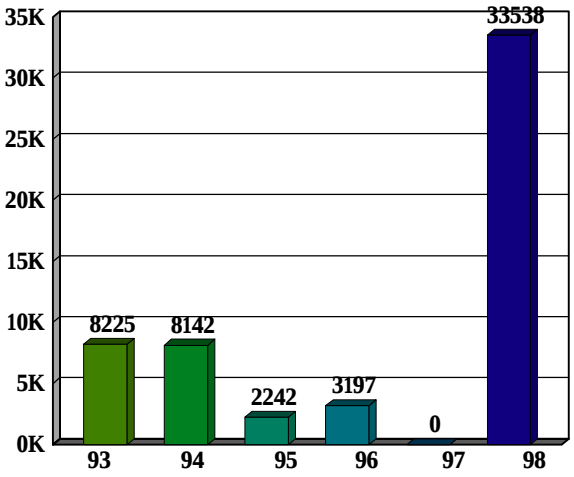
1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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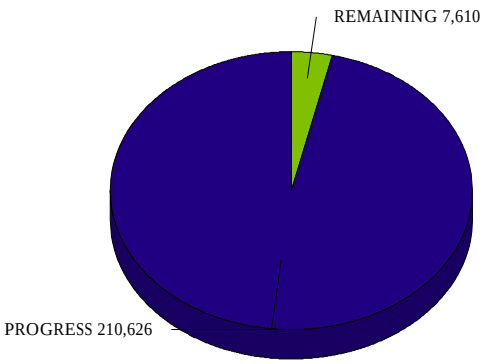
Upper Eastern Shore

Nutrient Management Plan Implementation

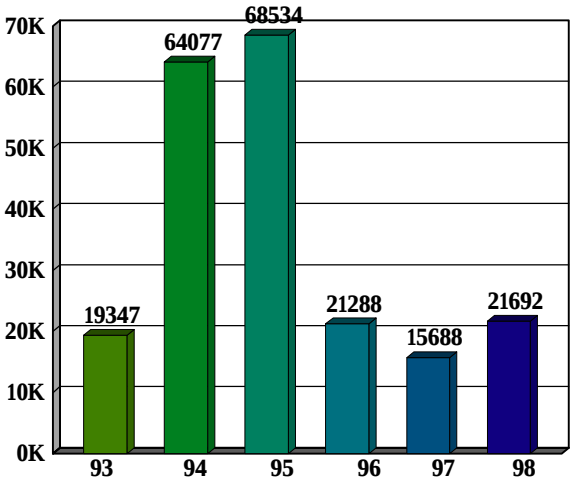
TS Goal: 218,236 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



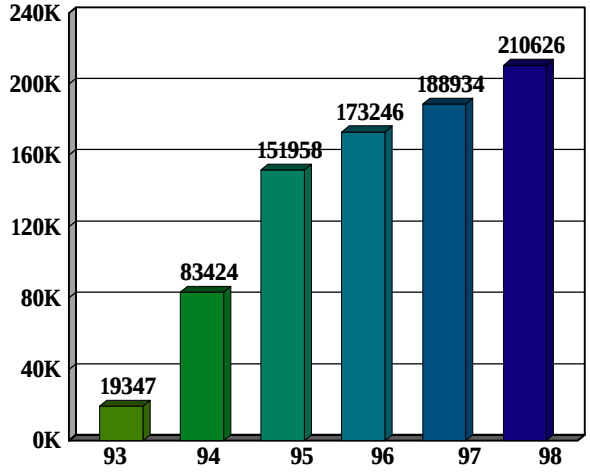
1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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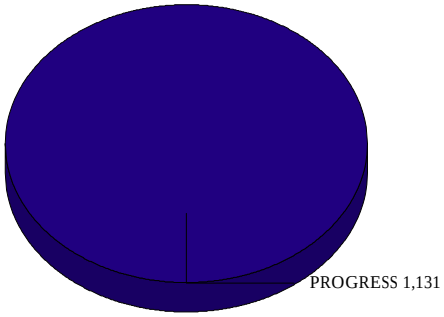
Upper Eastern Shore

Retirement of Highly Erodible Land

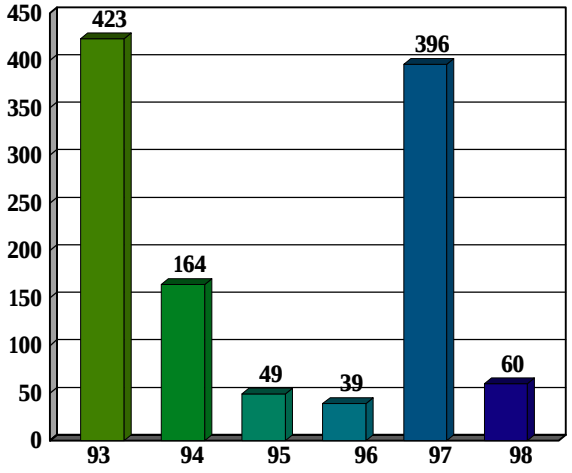
TS Goal: 0 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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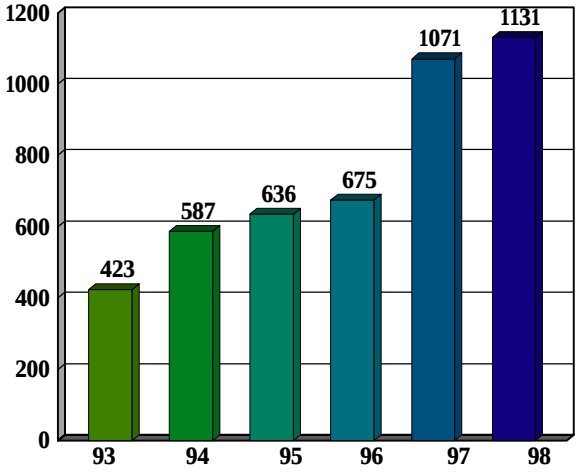

Cumulative

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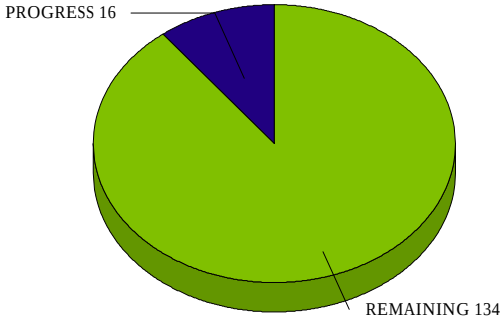
Upper Eastern Shore

Runoff Control

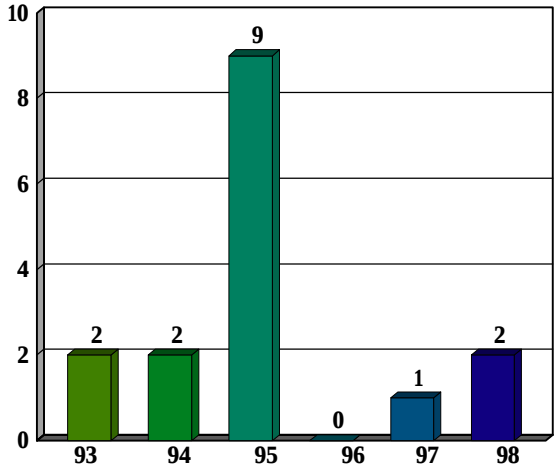
TS Goal: 150 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



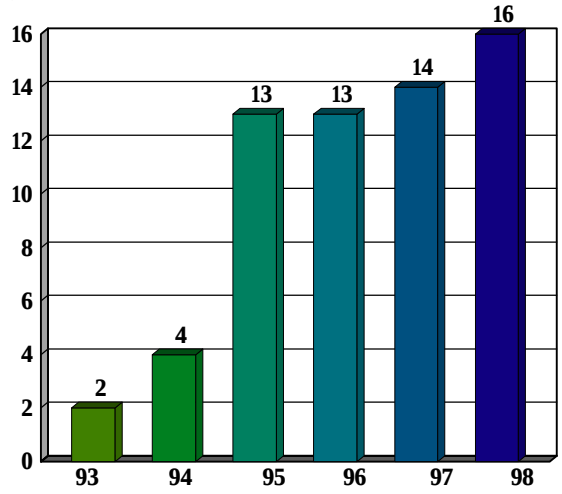
1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



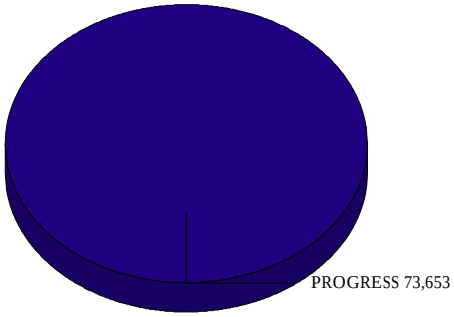
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Eastern Shore

SCWQP Implementation and Treatment of Highly Erodible Land

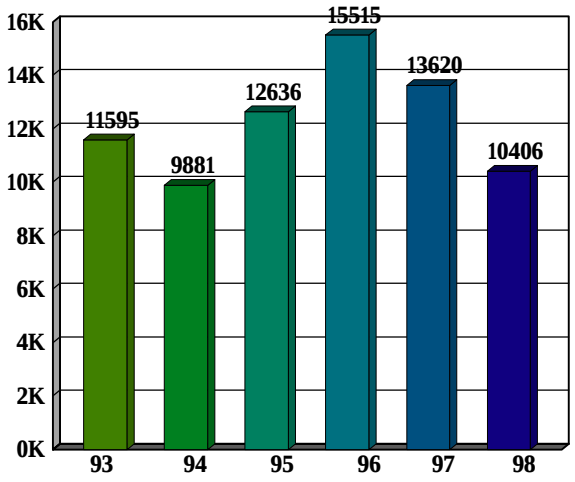
TS Goal: 39,933 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



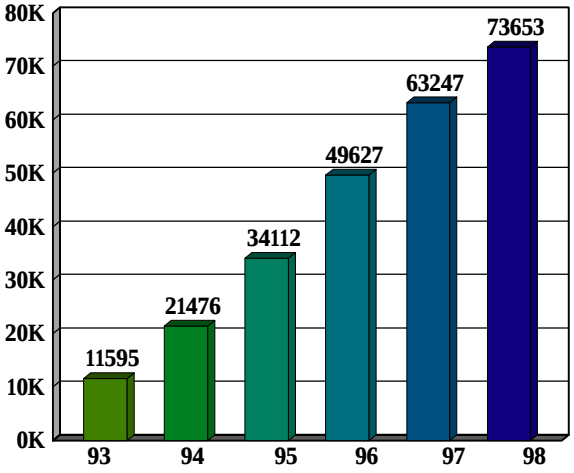
1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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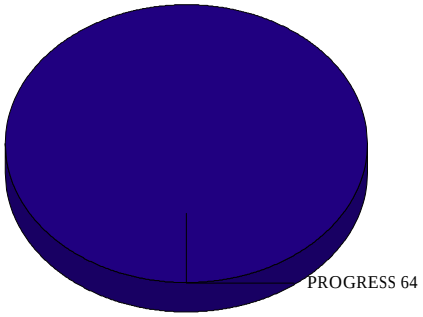
Upper Eastern Shore

Stream Protection with Fencing

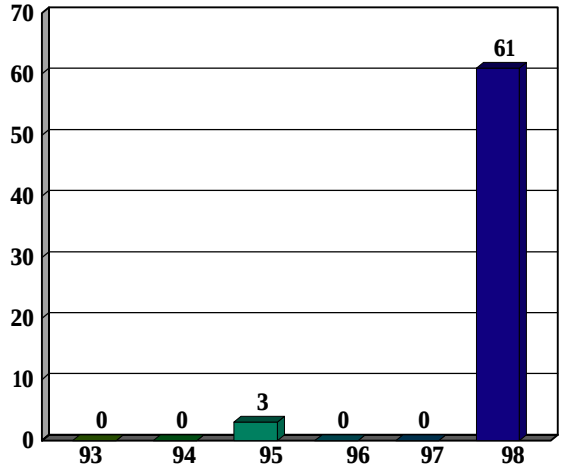
TS Goal: 16 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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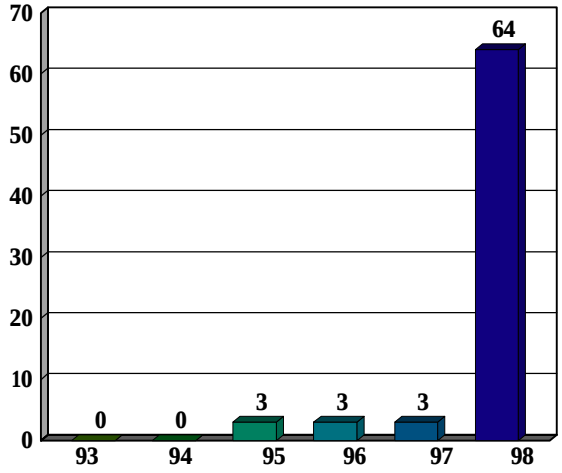

Cumulative

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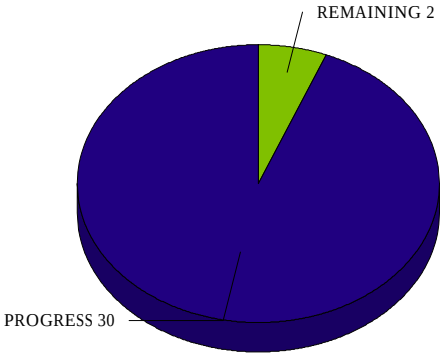
Upper Eastern Shore

Stream Protection without Fencing

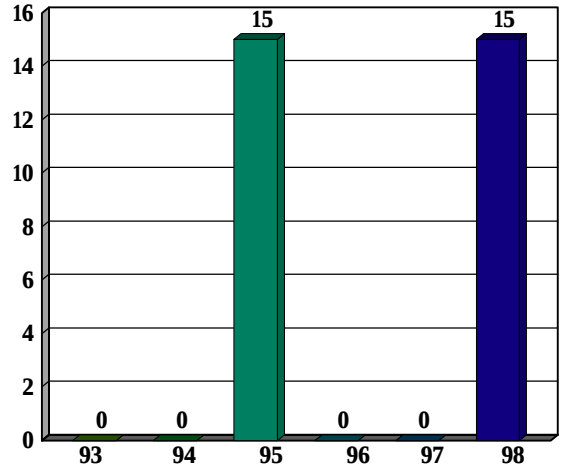
TS Goal: 32 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection without Fencing (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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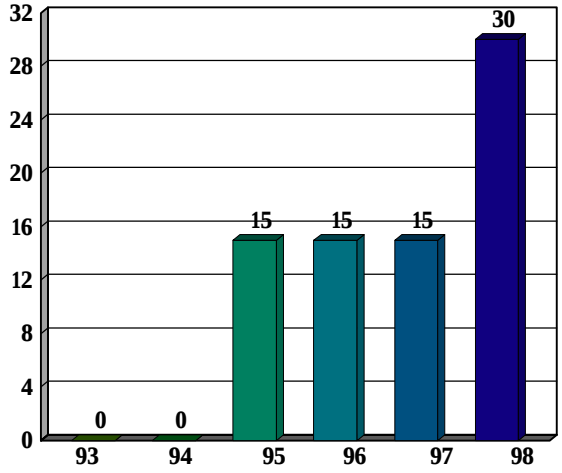

Cumulative

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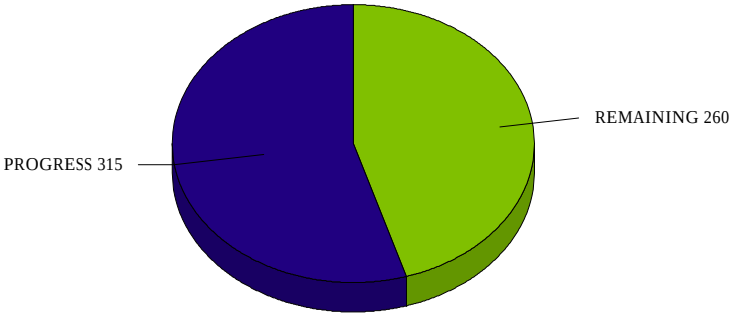
Upper Eastern Shore

Forest Conservation

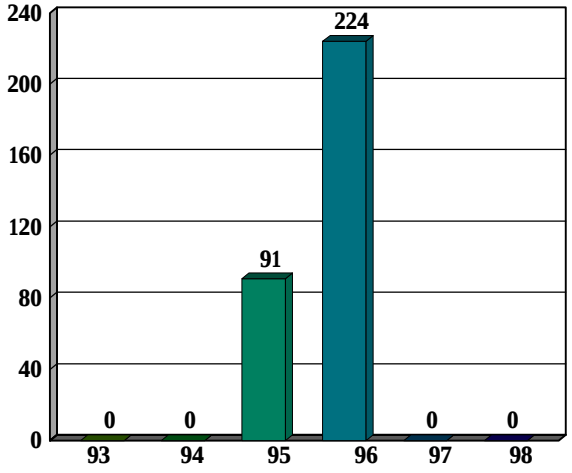
TS Goal: 575 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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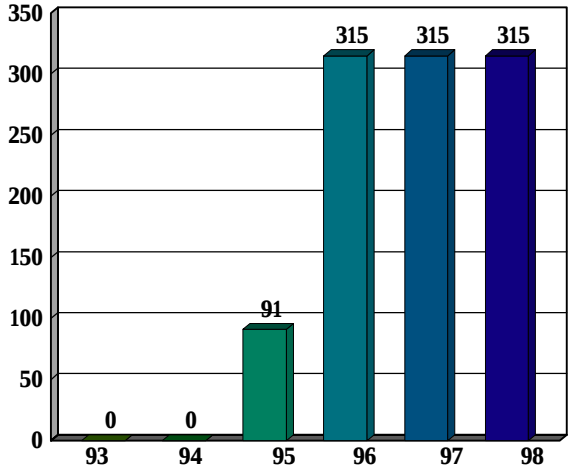

Cumulative

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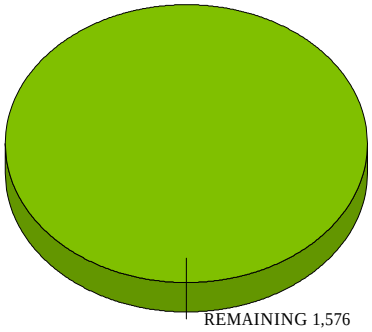
Upper Eastern Shore

Forest Harvesting Practices

TS Goal: 1,576 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual	Cumulative

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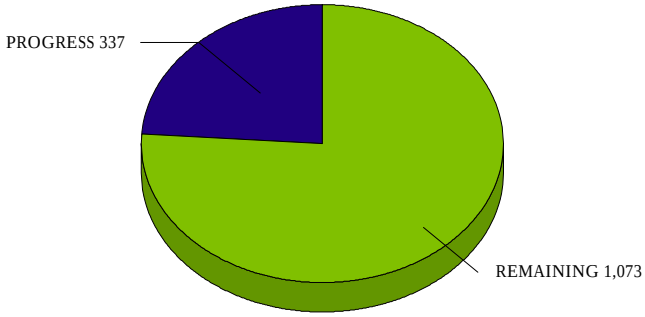
Upper Eastern Shore

Forested Buffers

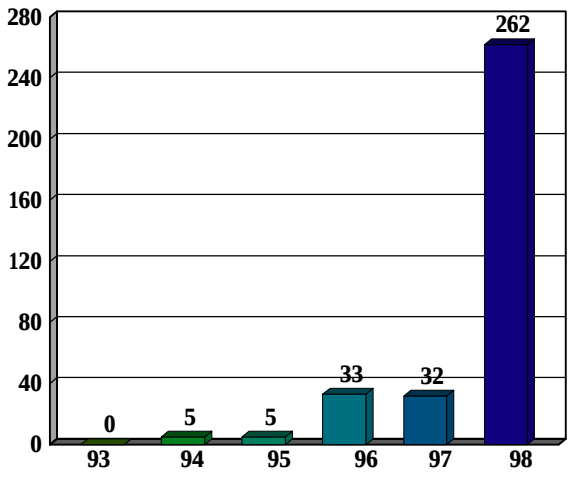
TS Goal: 1,410 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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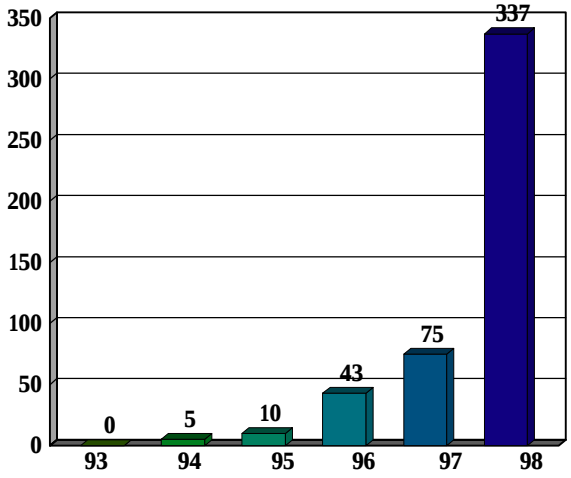

Cumulative

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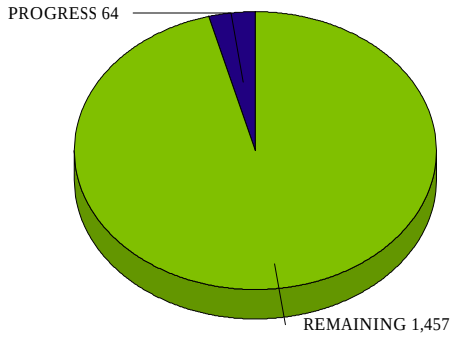
Upper Eastern Shore

Grassed Buffers

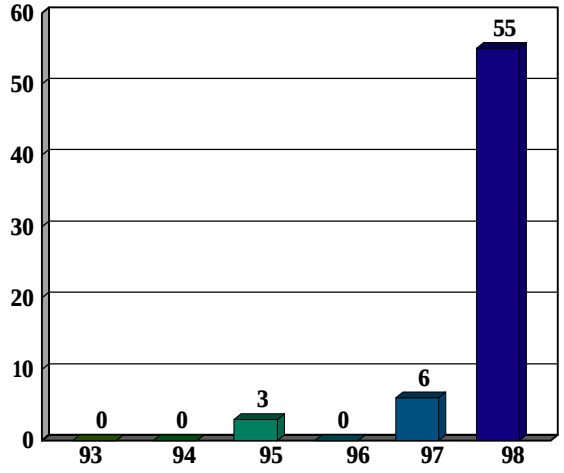
TS Goal: 1,521 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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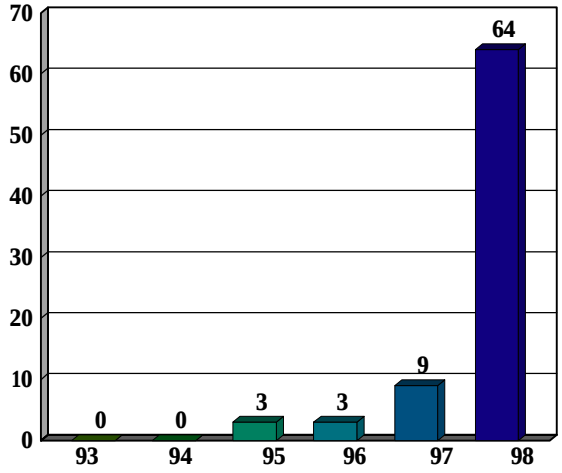

Cumulative

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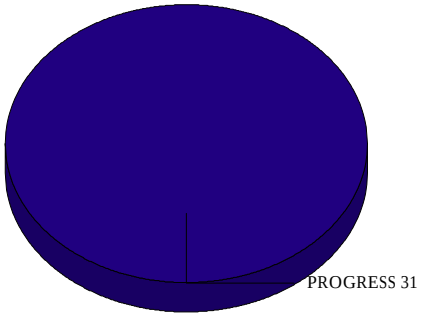
Upper Eastern Shore

Marine Pumpouts (installation)

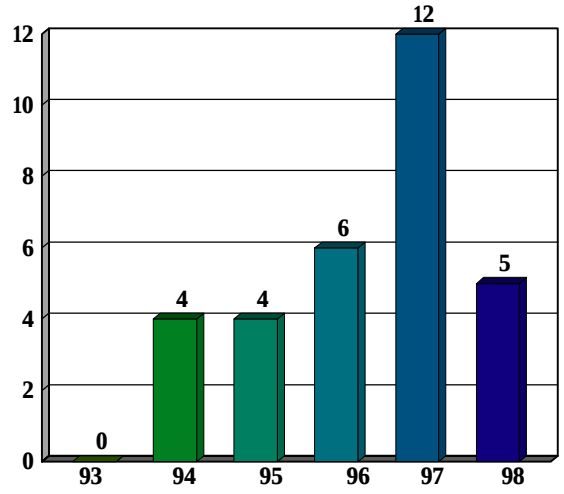
TS Goal: 28 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



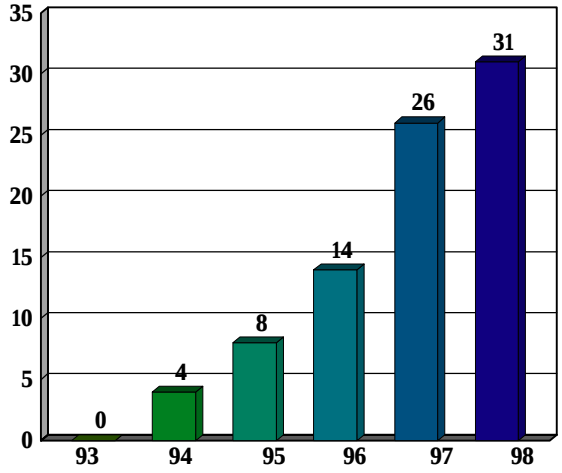
1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record

(marinas)



Annual



Cumulative

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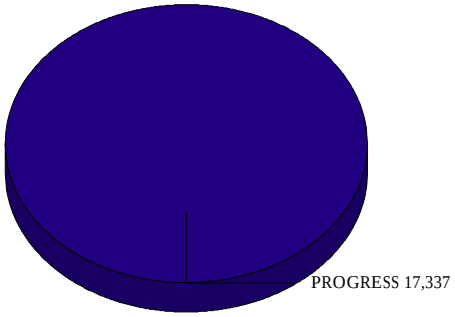
Upper Eastern Shore

Nonstructural Shore Erosion Control

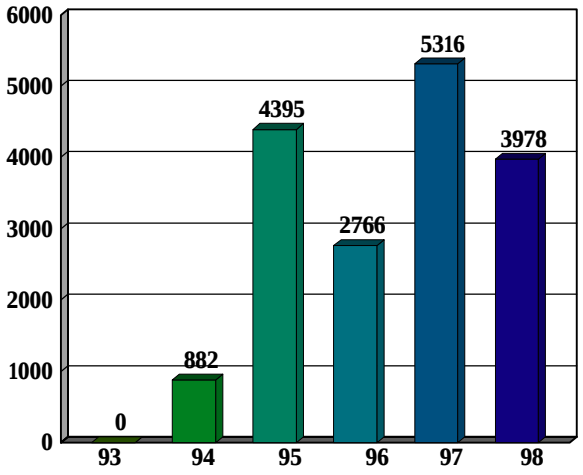
TS Goal: 8,940 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



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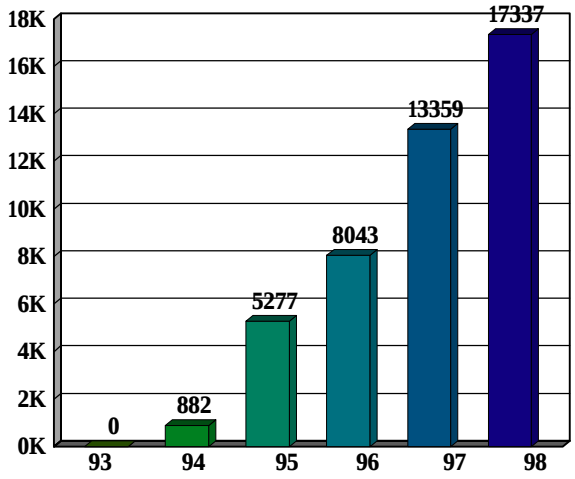

Cumulative

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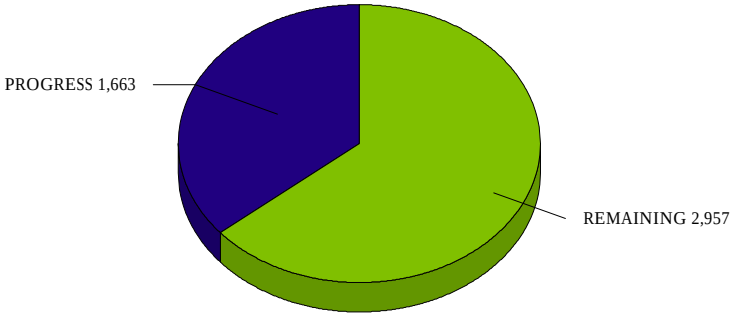
Upper Eastern Shore

Structural Shore Erosion Control

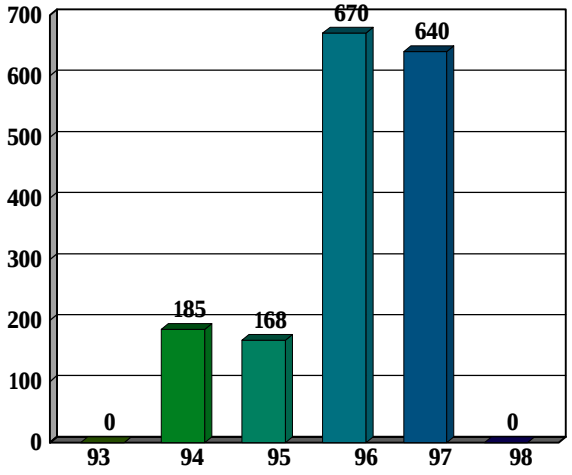
TS Goal: 4,620 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



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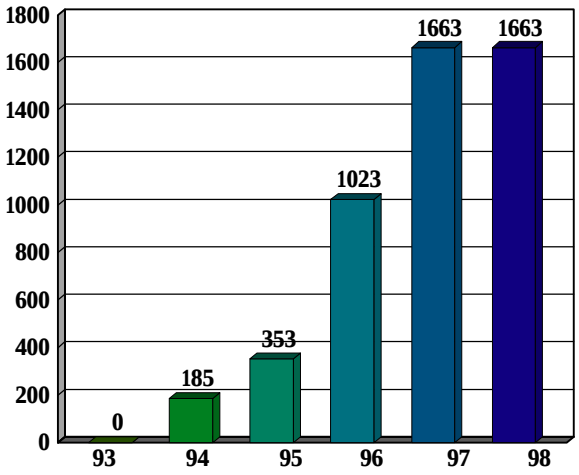

Cumulative

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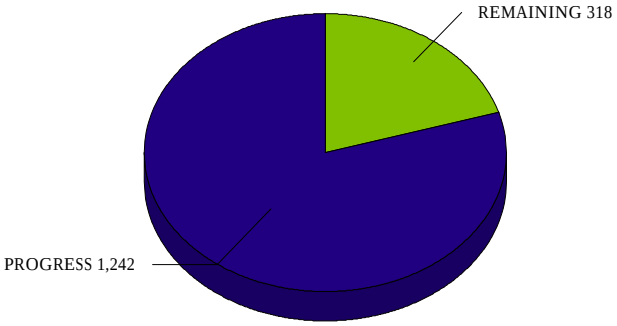
Upper Eastern Shore

Tree Planting

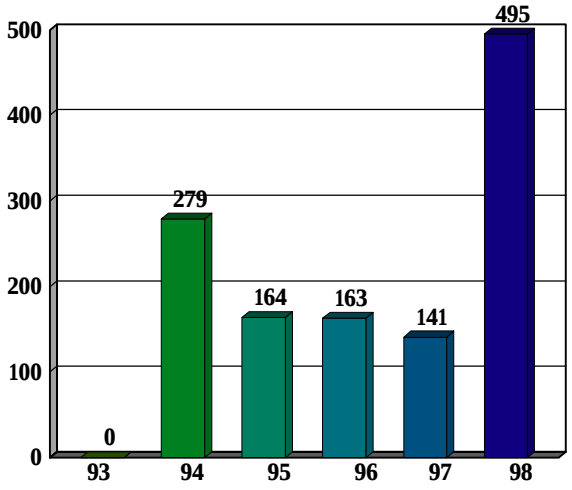
TS Goal: 1,560 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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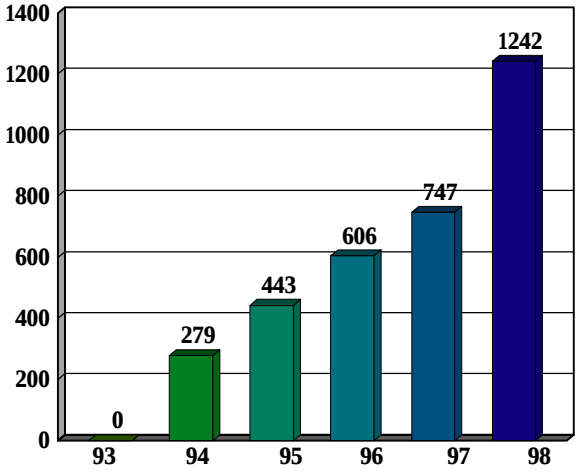

Cumulative

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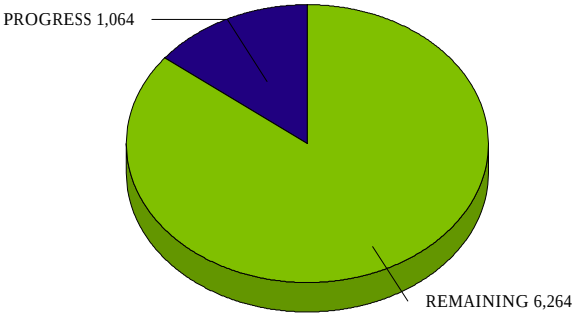
Upper Eastern Shore

Enhanced Stormwater Management

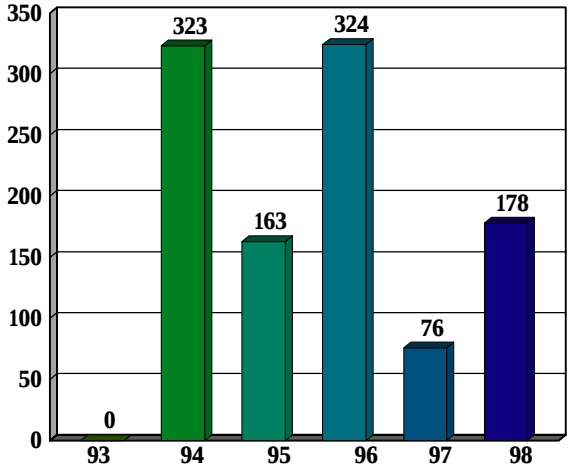
TS Goal: 7,328 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



1998 Progress for Enhanced Stormwater Management (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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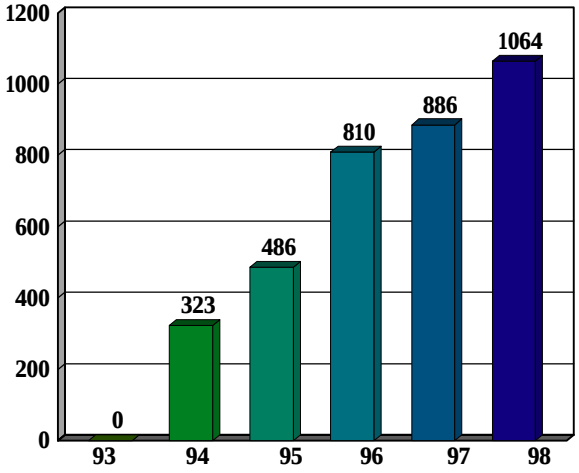

Cumulative

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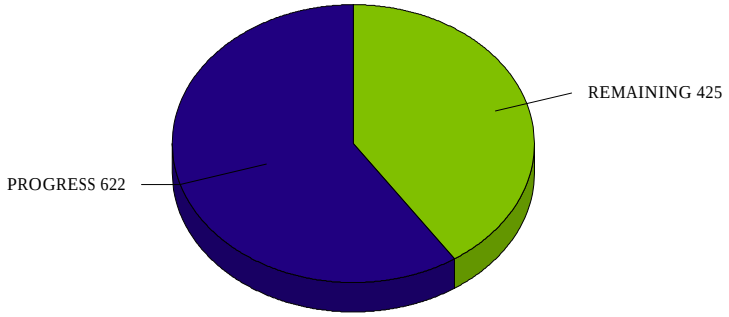
Upper Eastern Shore

Erosion and Sediment Control

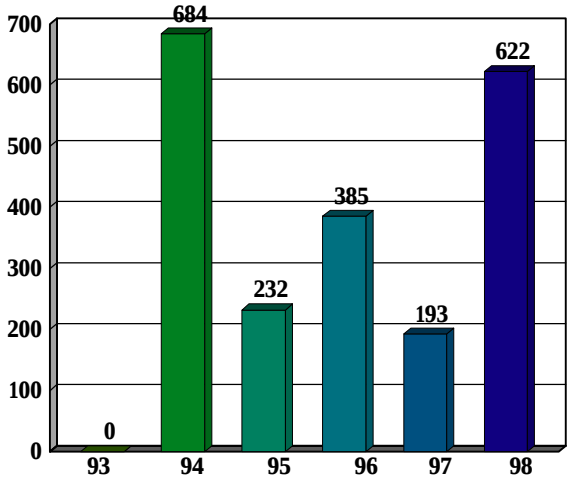
TS Goal: 1,047 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



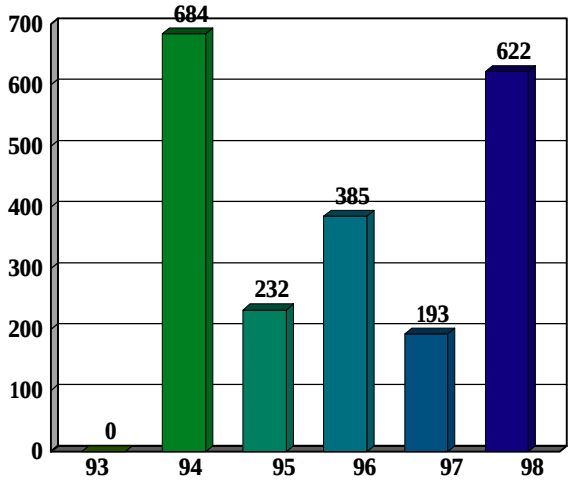
1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



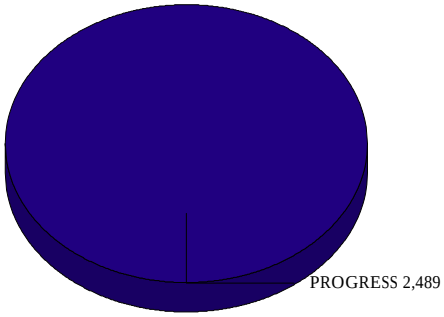
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Eastern Shore

Septic Connections

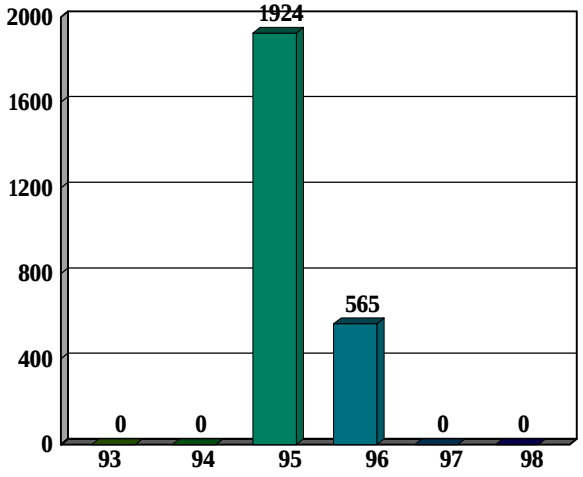
TS Goal: 1,781 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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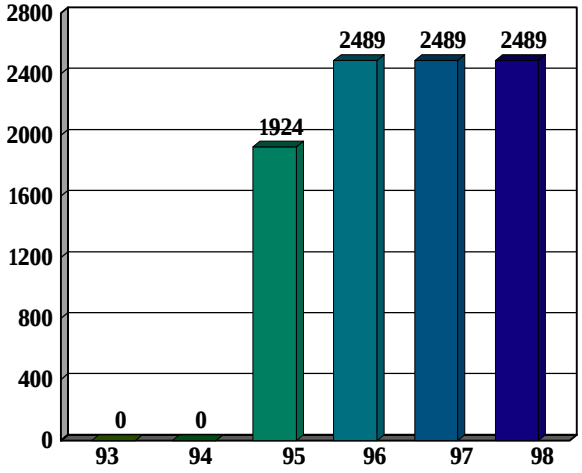

Cumulative

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Upper Eastern Shore

Septic Denitrification

TS Goal: 0 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a

1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Eastern Shore

Septic Pumping

TS Goal: 117 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a

1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

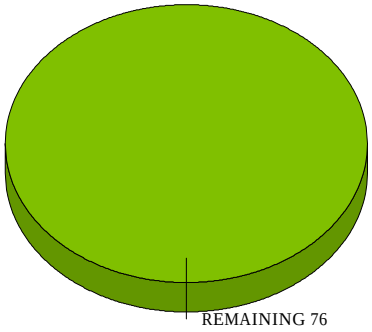
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Eastern Shore

Stormwater Management Conversion

TS Goal: 76 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

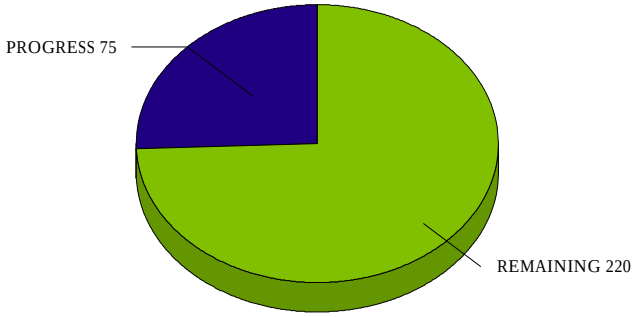
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Eastern Shore

Stormwater Management Retrofits

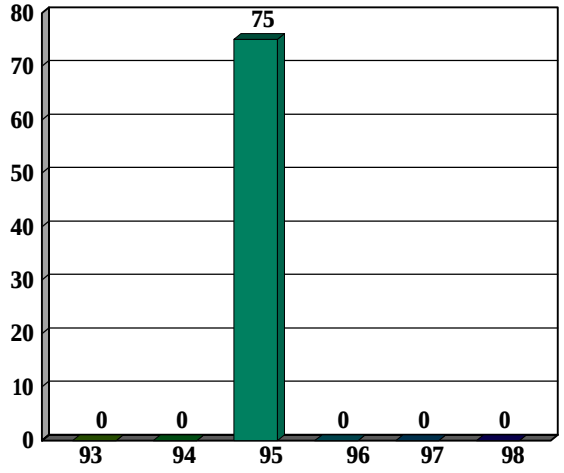
TS Goal: 295 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Retrofits (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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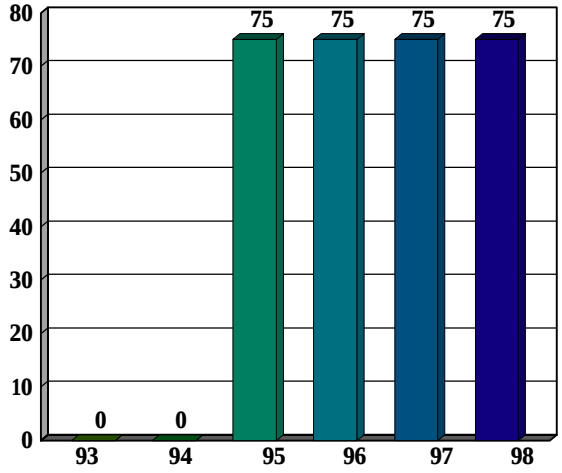

Cumulative

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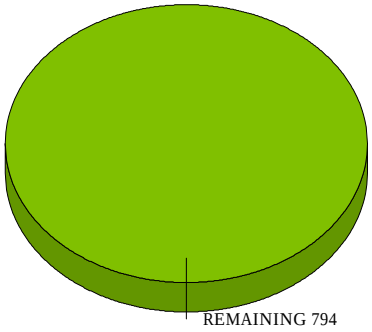
Upper Eastern Shore

Urban Nutrient Management

TS Goal: 794 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

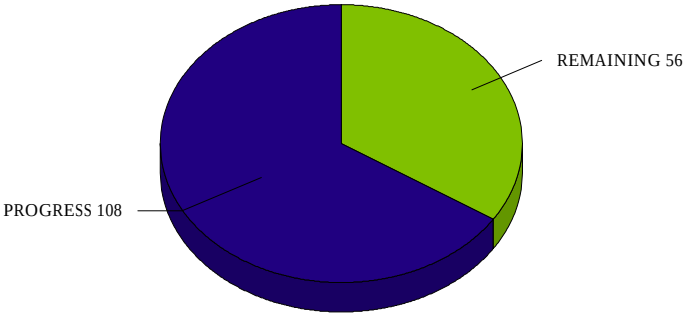
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Animal Waste Management Systems: Livestock

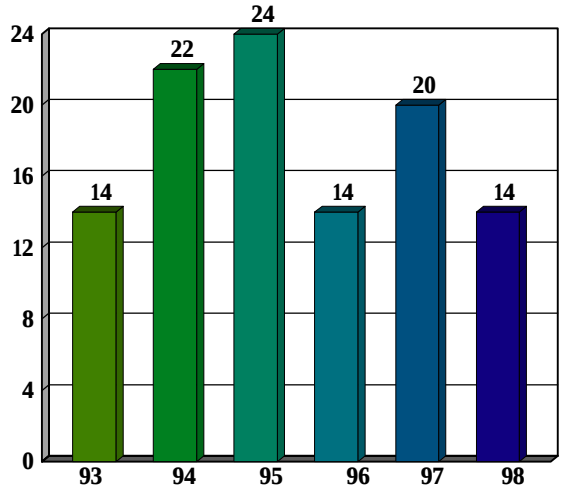
TS Goal: 164 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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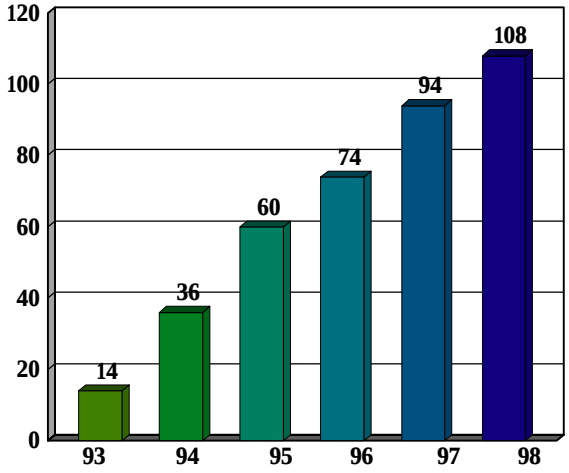

Cumulative

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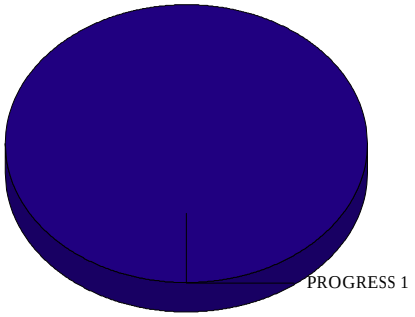
Upper Potomac

Animal Waste Management Systems: Poultry

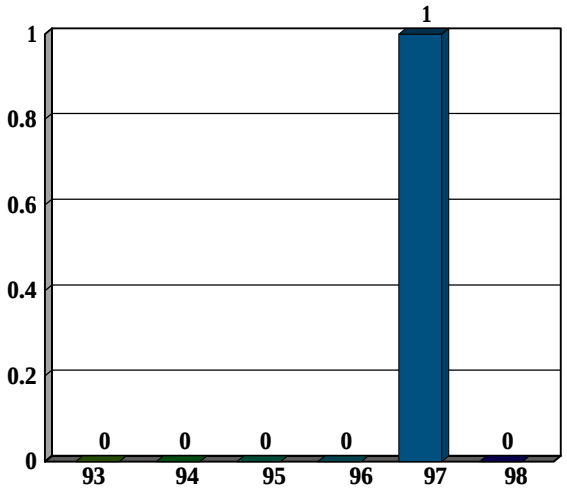
TS Goal: 0 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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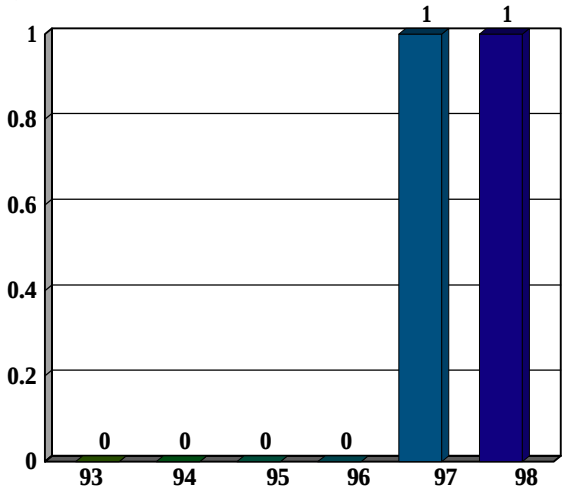

Cumulative

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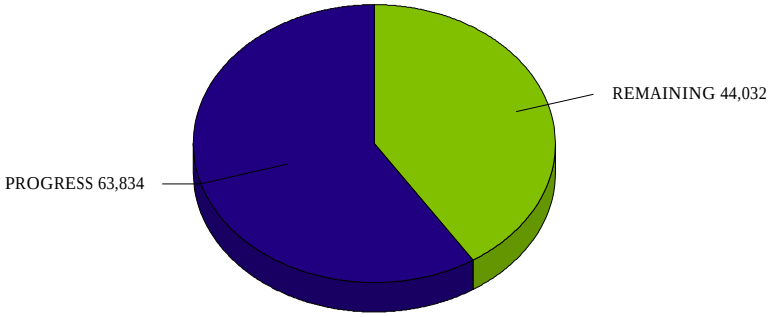
Upper Potomac

Conservation Tillage

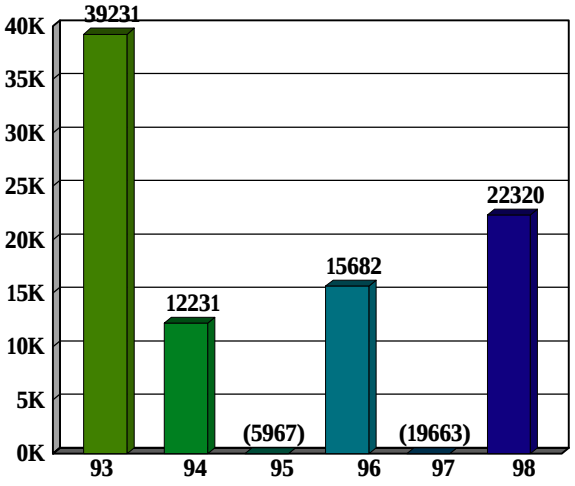
TS Goal: 107,866 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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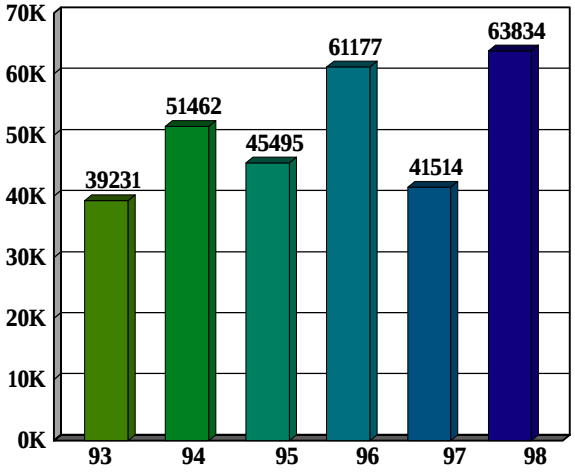

Cumulative

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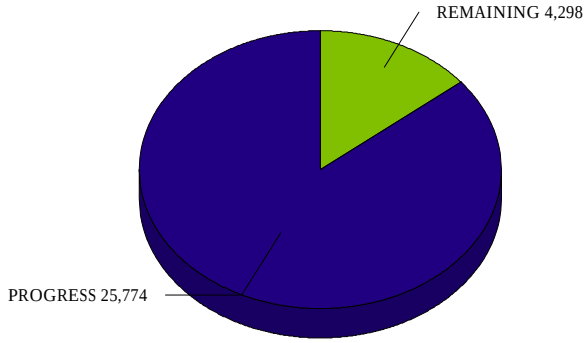
Upper Potomac

Cover Crops

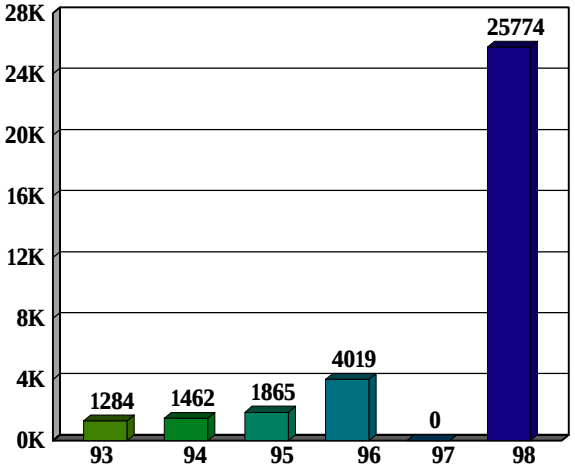
TS Goal: 30,072 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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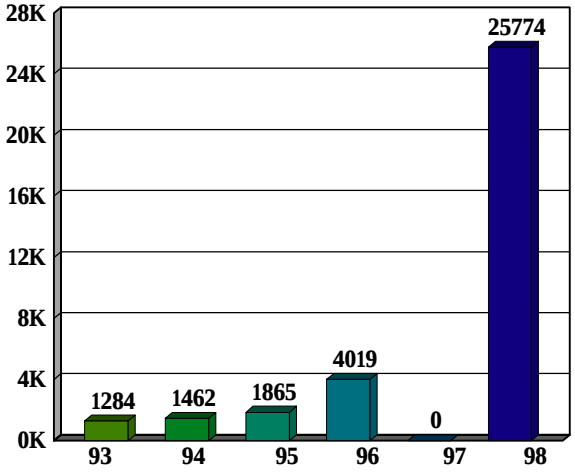

Cumulative

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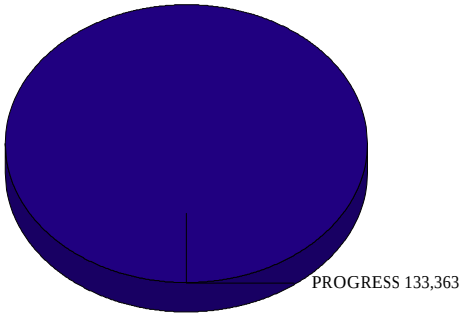
Upper Potomac

Nutrient Management Plan Implementation

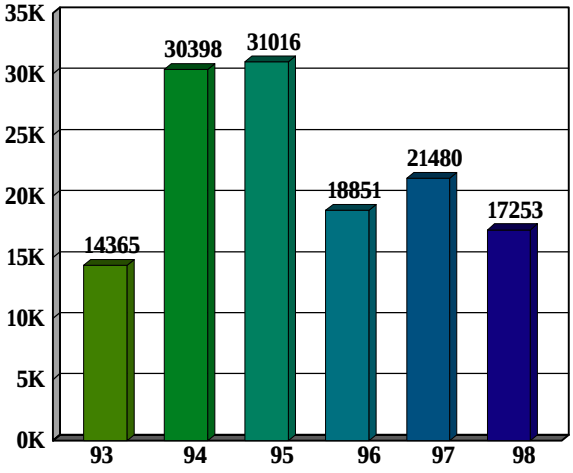
TS Goal: 84,017 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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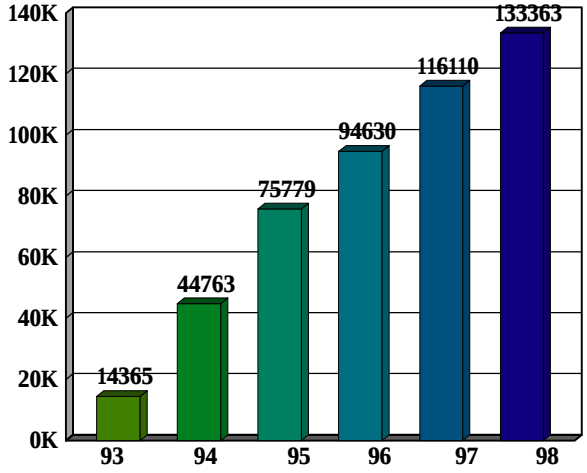

Cumulative

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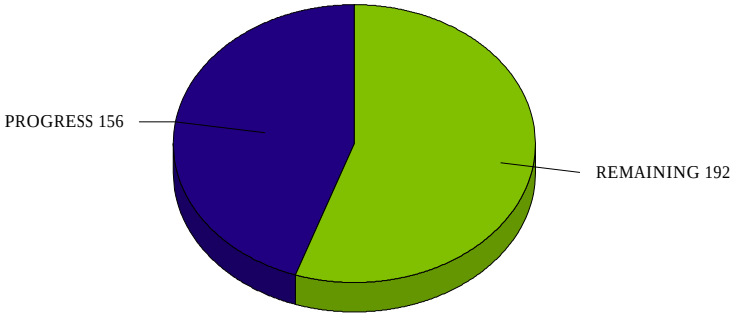
Upper Potomac

Retirement of Highly Erodible Land

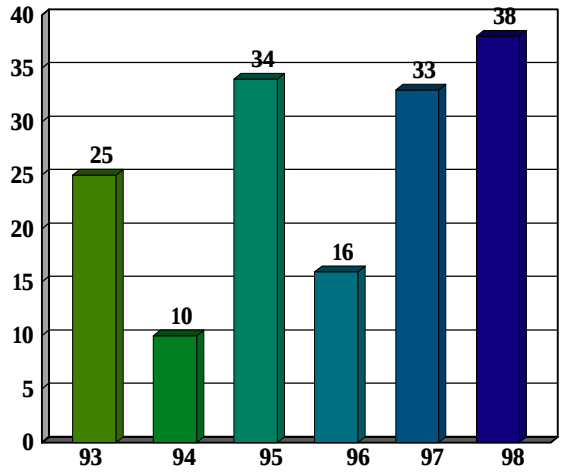
TS Goal: 348 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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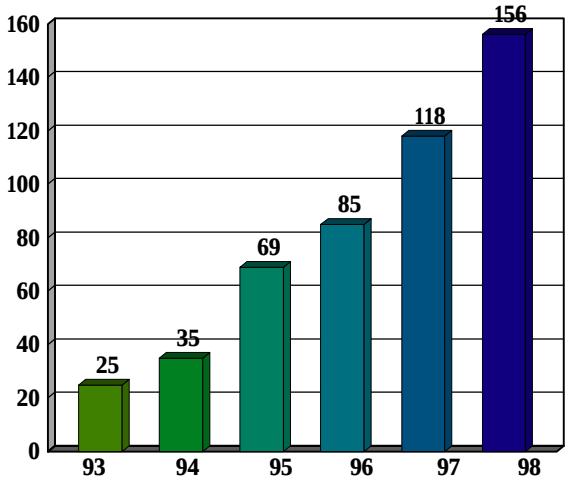

Cumulative

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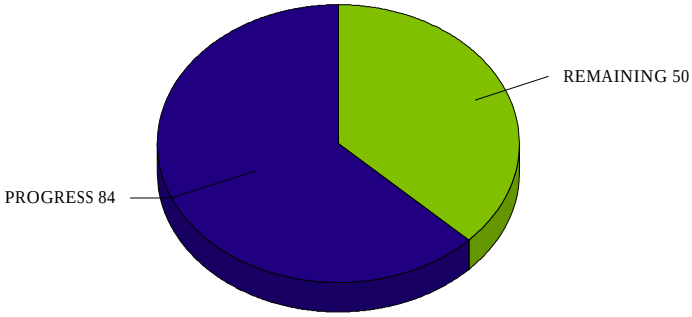
Upper Potomac

Runoff Control

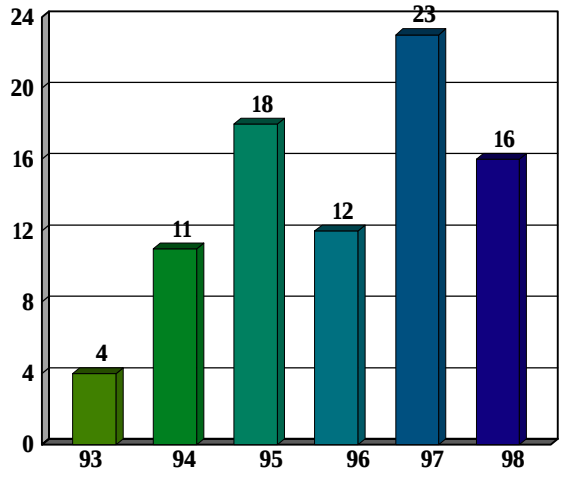
TS Goal: 134 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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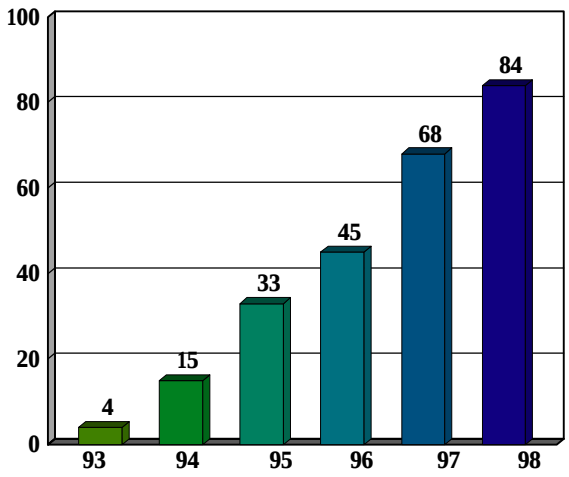

Cumulative

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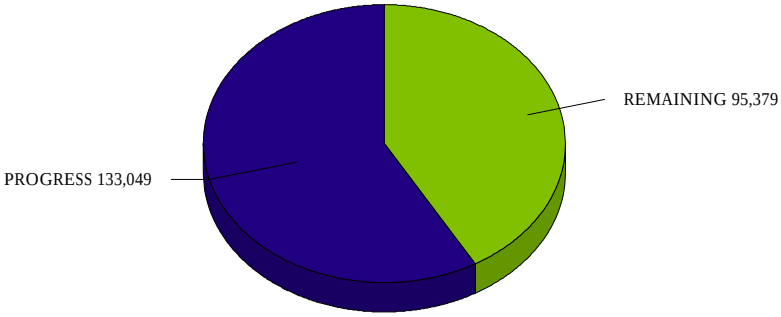
Upper Potomac

SCWQP Implementation and Treatment of Highly Erodible Land

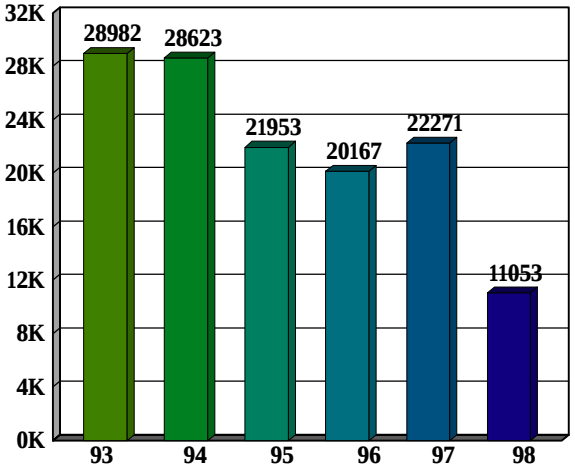
TS Goal: 228,428 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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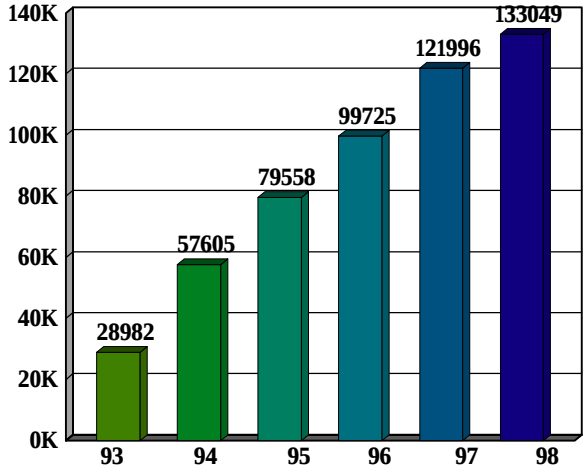


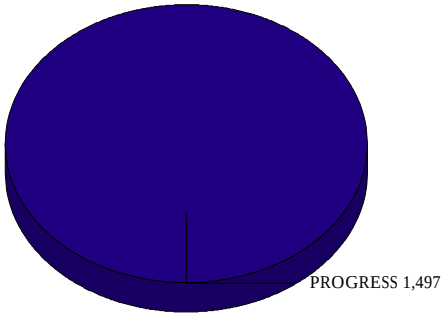
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Stream Protection with Fencing

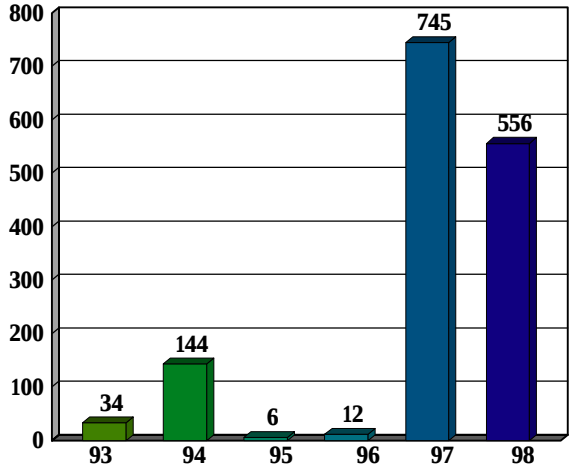
TS Goal: 665 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



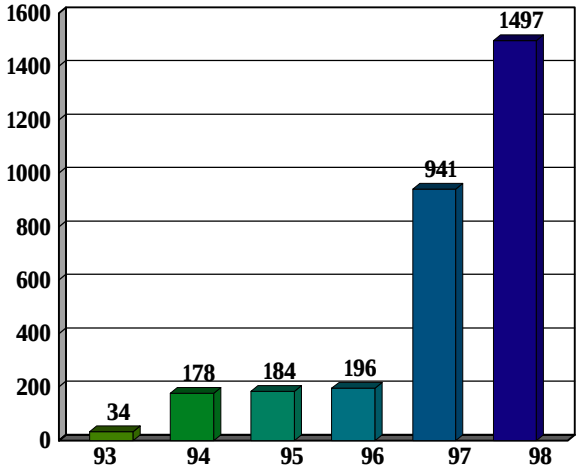
1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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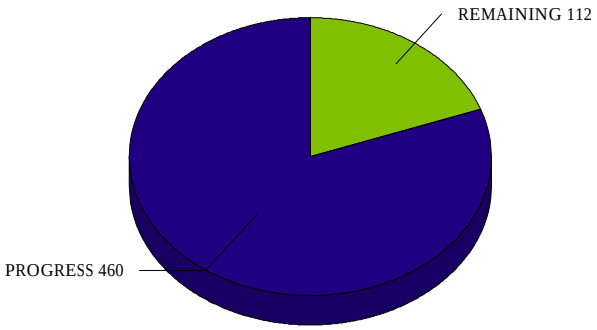
Upper Potomac

Stream Protection without Fencing

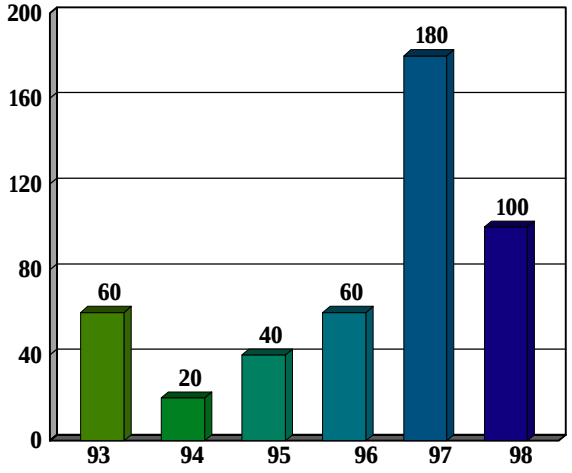
TS Goal: 572 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



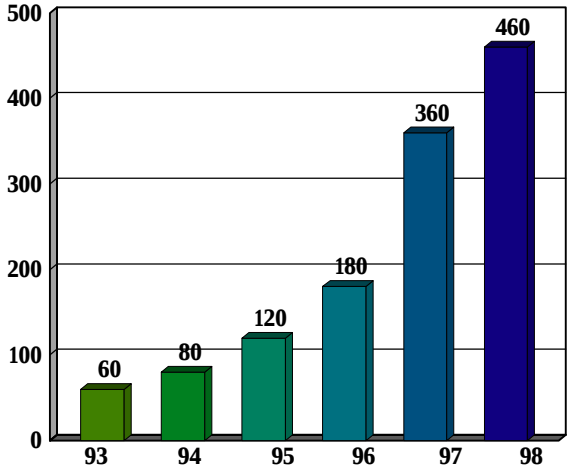
1998 Progress for Stream Protection without Fencing (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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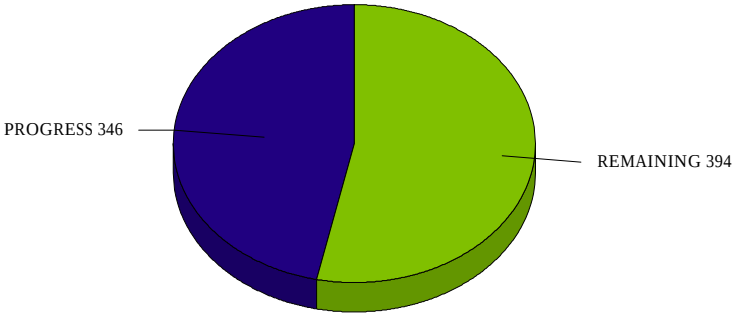
Upper Potomac

Forest Conservation

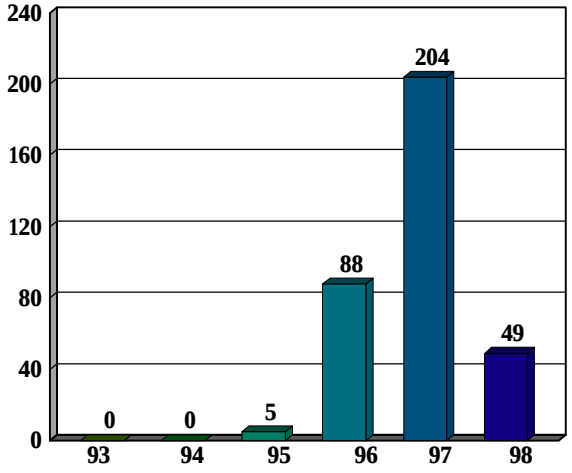
TS Goal: 740 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



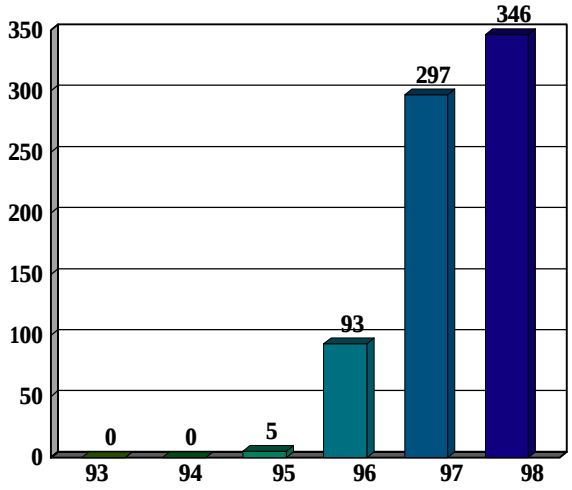
1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



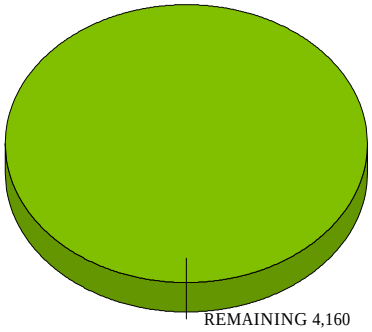
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Forest Harvesting Practices

TS Goal: 4,160 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

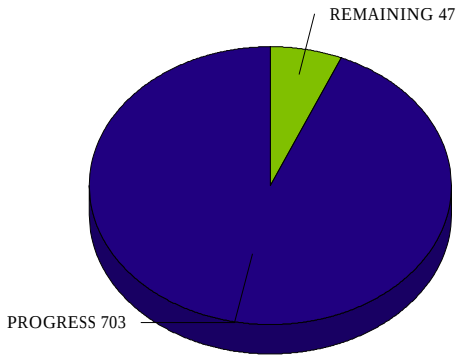
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Forested Buffers

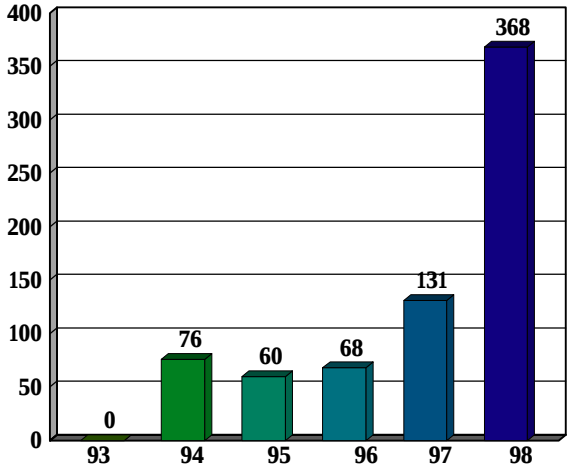
TS Goal: 750 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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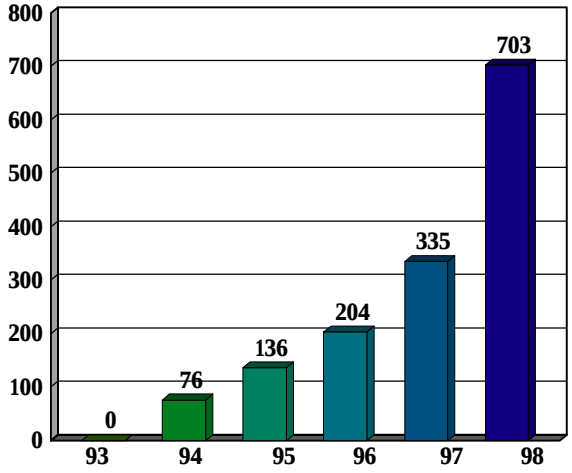

Cumulative

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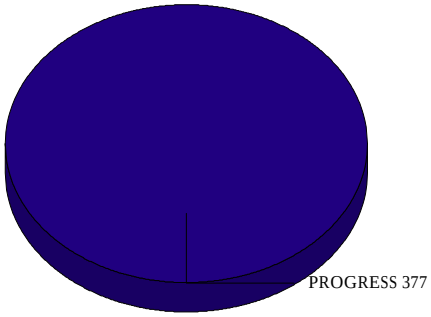
Upper Potomac

Grassed Buffers

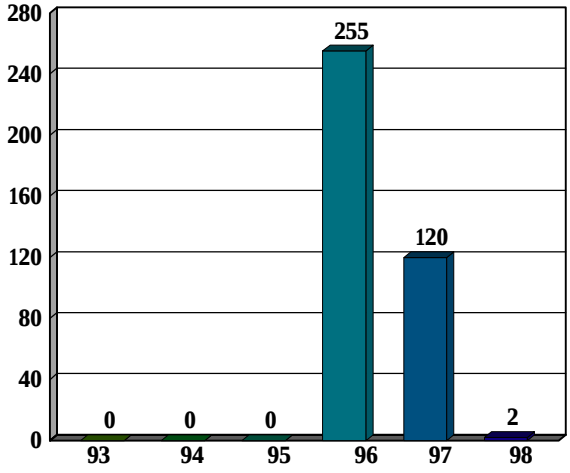
TS Goal: 240 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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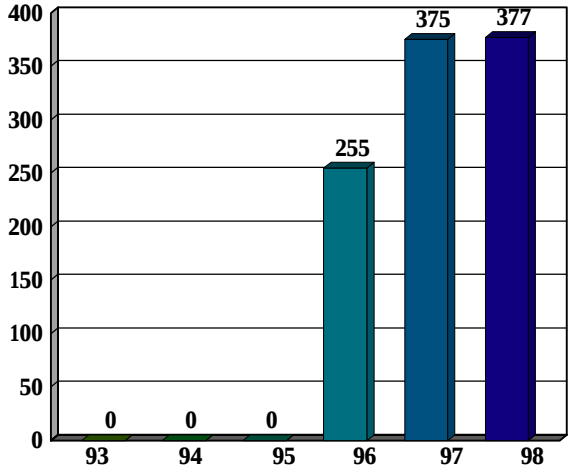


Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Marine Pumpouts (installation)

TS Goal: 0 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record
(marinas)

Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Nonstructural Shore Erosion Control

TS Goal: 0 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record
(linear feet)

Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Structural Shore Erosion Control

TS Goal: 0 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record
(linear feet)

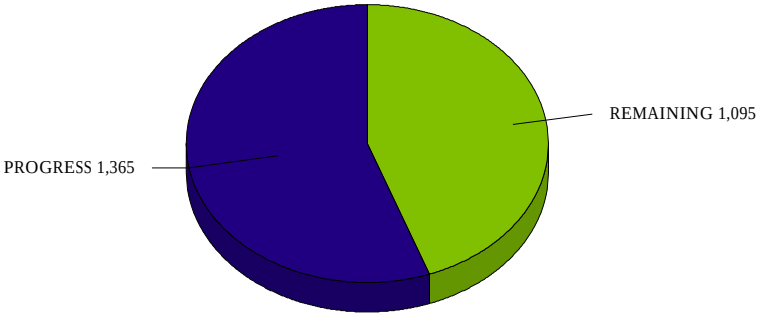
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Tree Planting

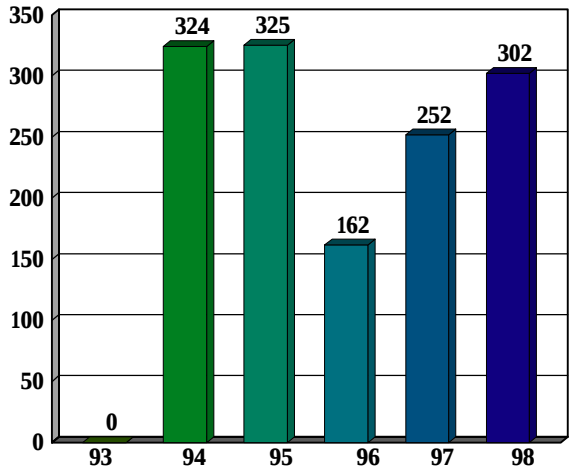
TS Goal: 2,460 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



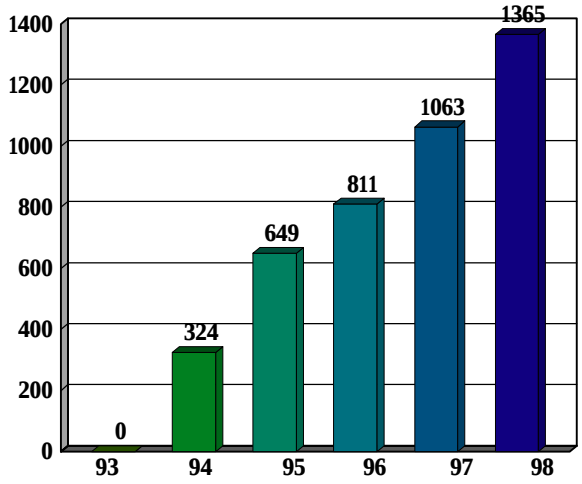
1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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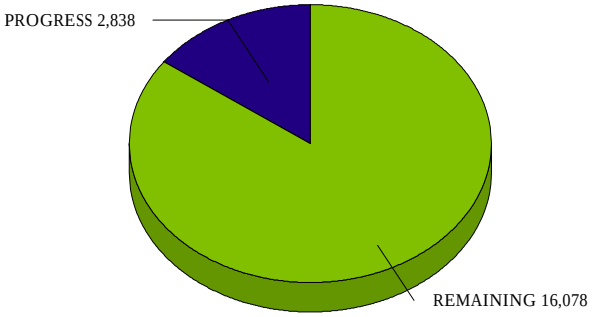
Upper Potomac

Enhanced Stormwater Management

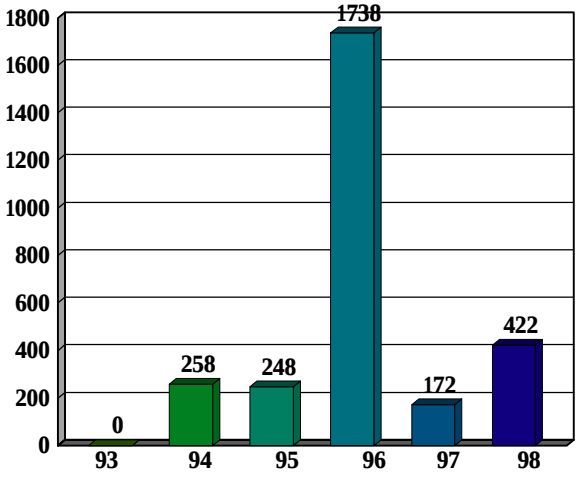
TS Goal: 18,916 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



1998 Progress for Enhanced Stormwater Management (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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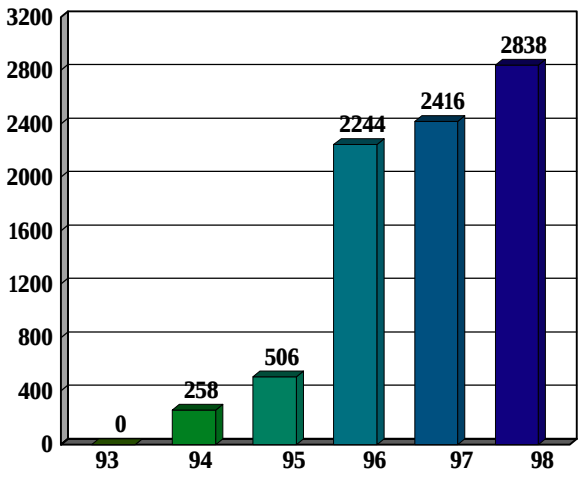

Cumulative

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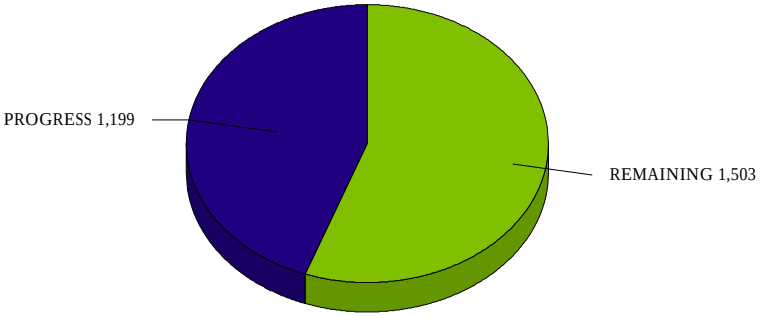
Upper Potomac

Erosion and Sediment Control

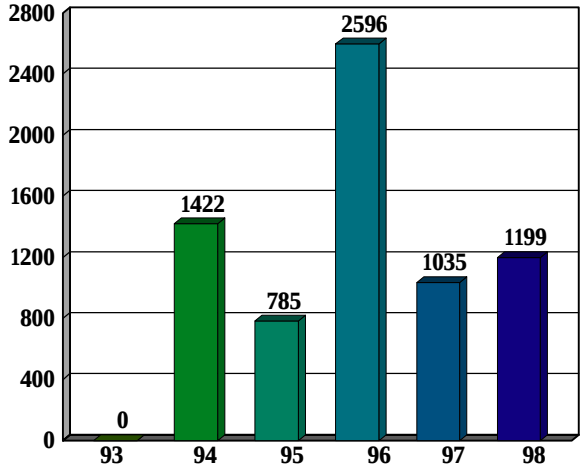
TS Goal: 2,702 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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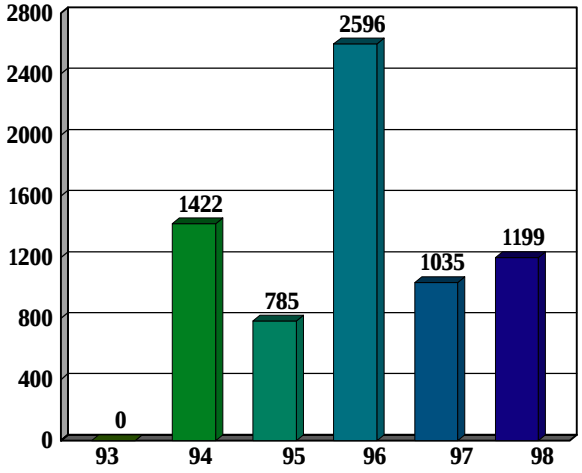

Cumulative

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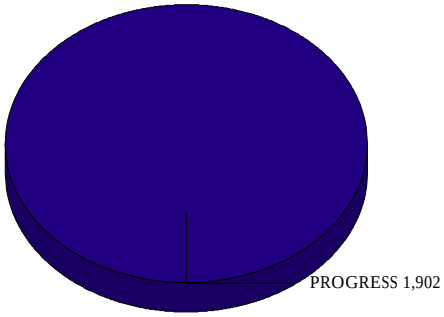
Upper Potomac

Septic Connections

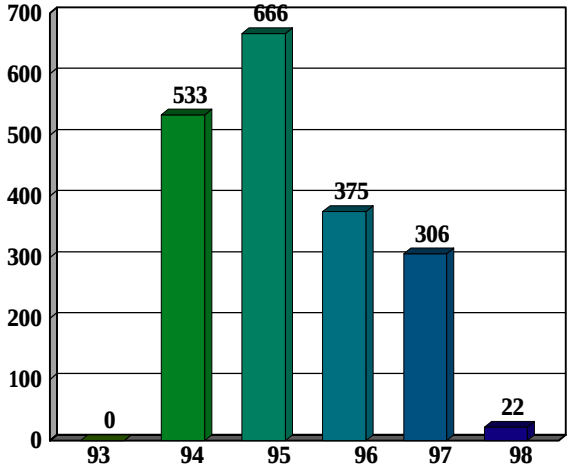
TS Goal: 870 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



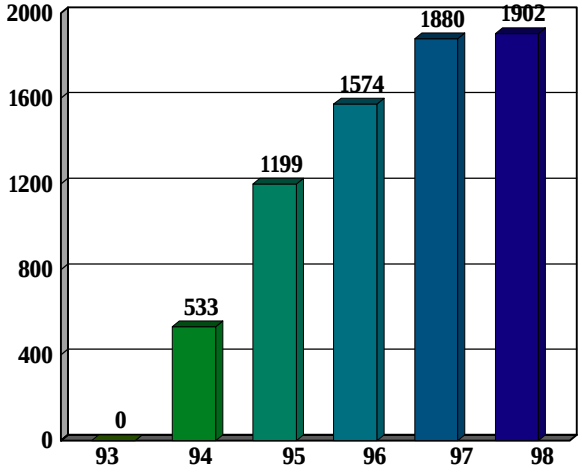
1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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Upper Potomac

Septic Denitrification

TS Goal: 0 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a

1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

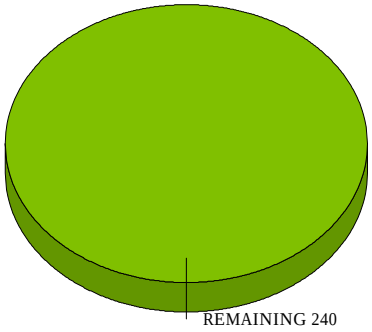
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Septic Pumping

TS Goal: 240 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

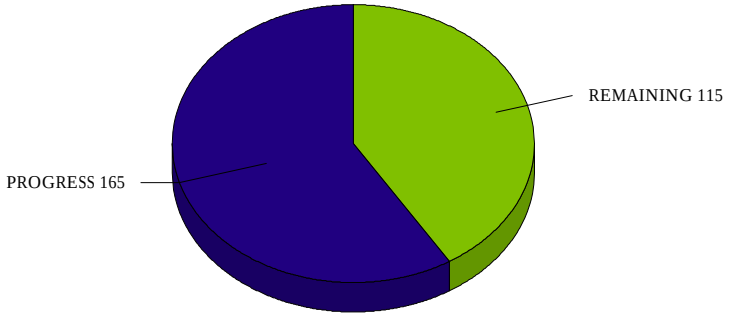
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Stormwater Management Conversion

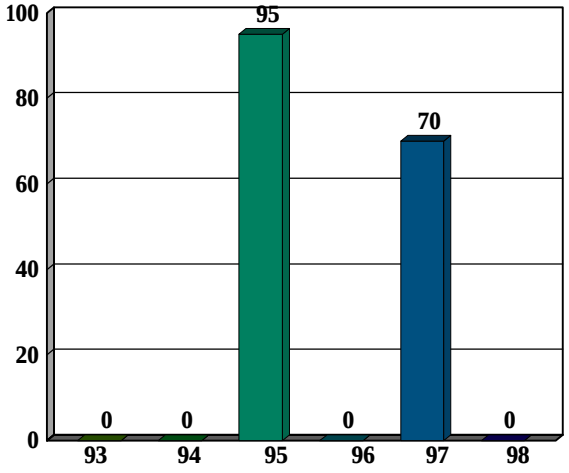
TS Goal: 280 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



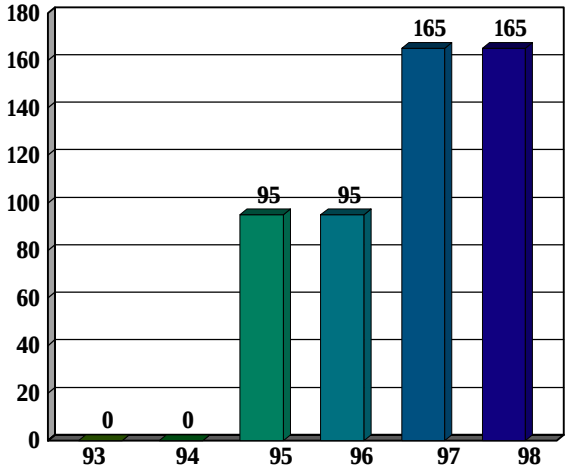
1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



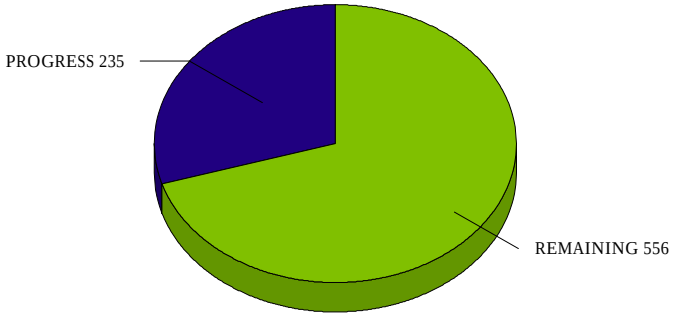
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Potomac

Stormwater Management Retrofits

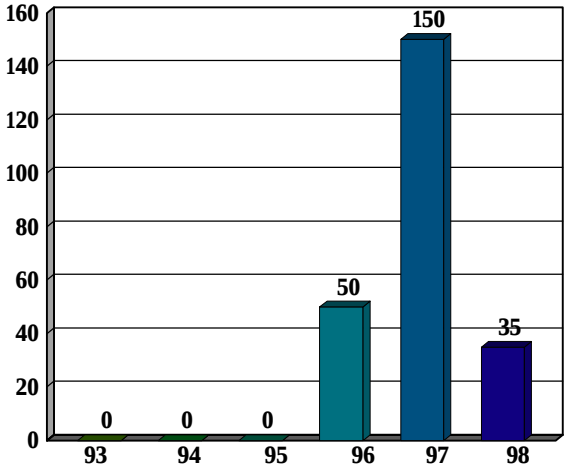
TS Goal: 791 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stormwater Management Retrofits (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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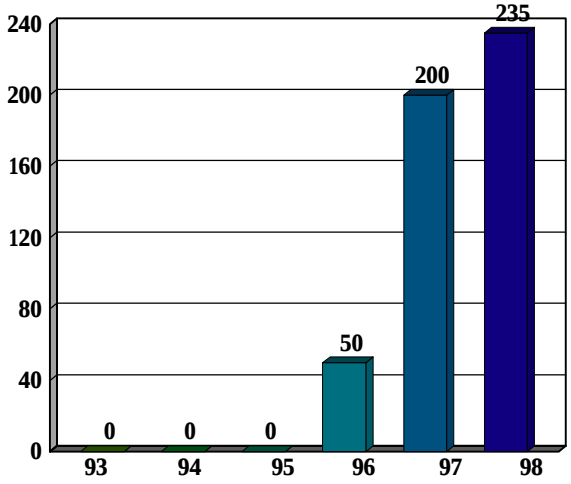

Cumulative

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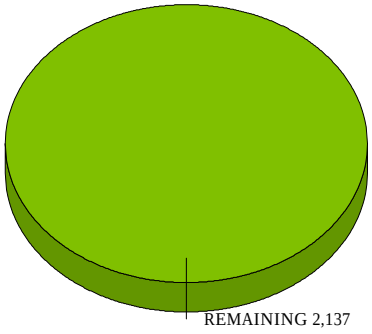
Upper Potomac

Urban Nutrient Management

TS Goal: 2,137 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

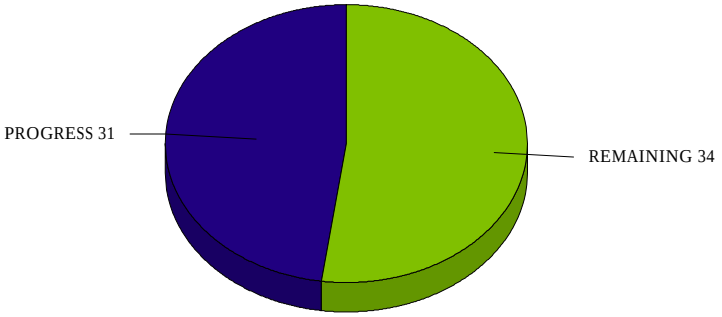
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Animal Waste Management Systems: Livestock

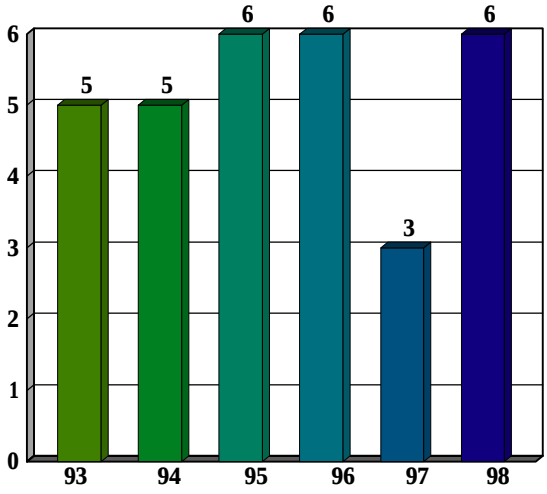
TS Goal: 65 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Animal Waste Management Systems: Livestock
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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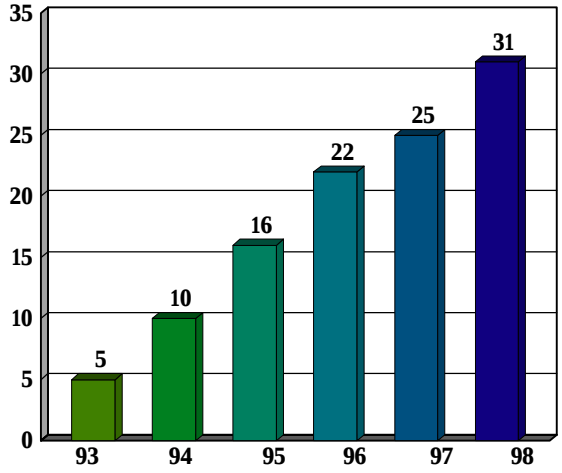

Cumulative

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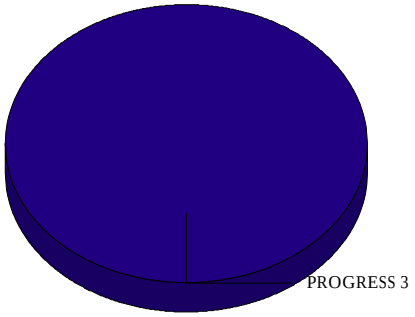
Upper Western Shore

Animal Waste Management Systems: Poultry

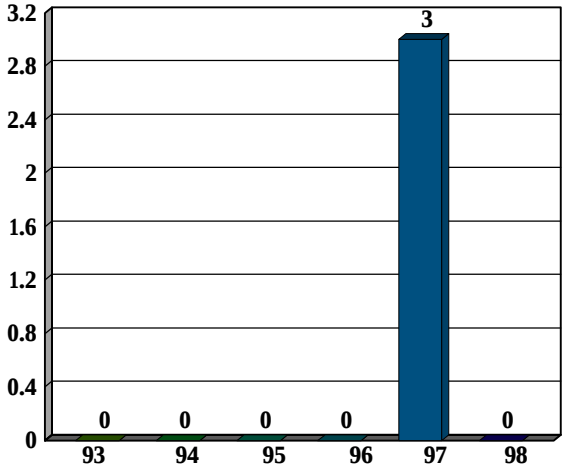
TS Goal: 0 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure acres (stored manure)
Nitrogen Efficiency: 14% reduction
Phosphorus Efficiency: 14% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Animal Waste Management Systems: Poultry
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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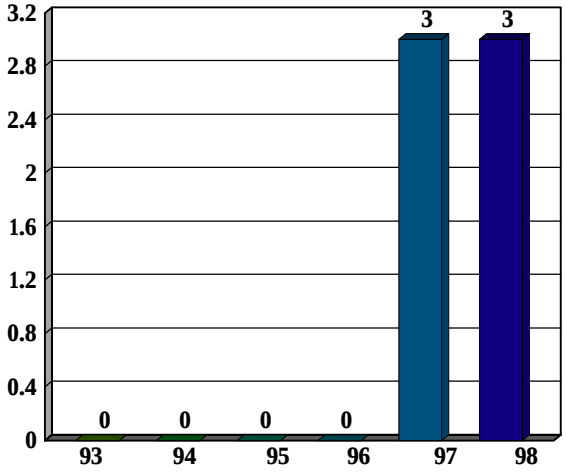

Cumulative

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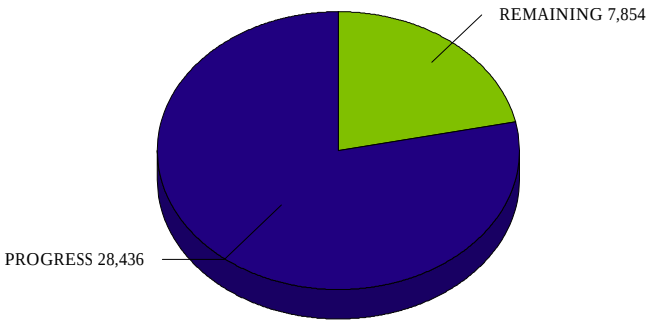
Upper Western Shore

Conservation Tillage

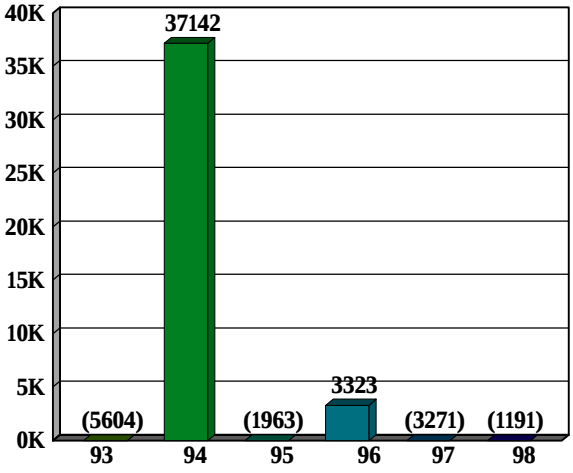
TS Goal: 36,290 acres
Definition: A process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface, with minimal soil disturbance.
Applied to: hitill and lotill land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Conservation Tillage
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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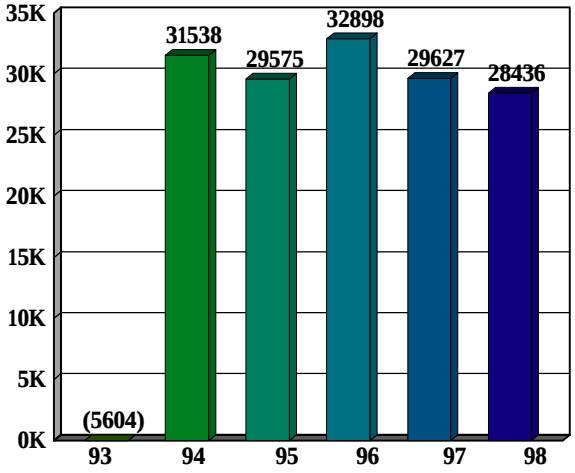

Cumulative

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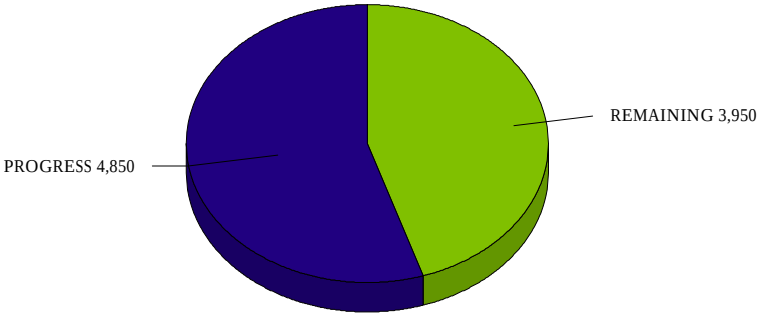
Upper Western Shore

Cover Crops

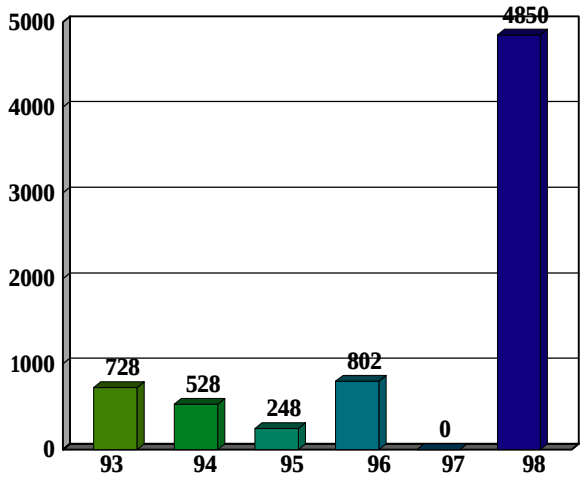
TS Goal: 8,800 acres
Definition: Small grains planted in September or early October on land otherwise fallow with no fertilizer applied. This practice reduces nitrate leaching losses during the winter, and also reduce erosion.
Applied to: hitill and lotill land
Nitrogen Efficiency: 59% reduction
Phosphorus Efficiency: 44% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



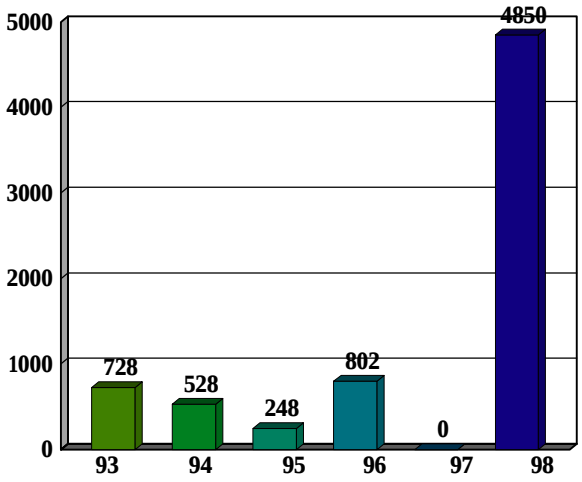
1998 Progress for Cover Crops
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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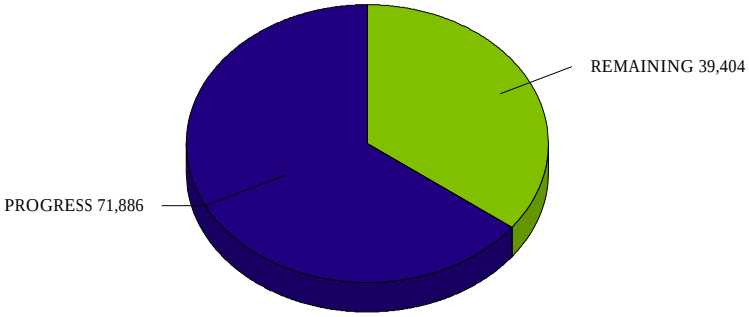
Upper Western Shore

Nutrient Management Plan Implementation

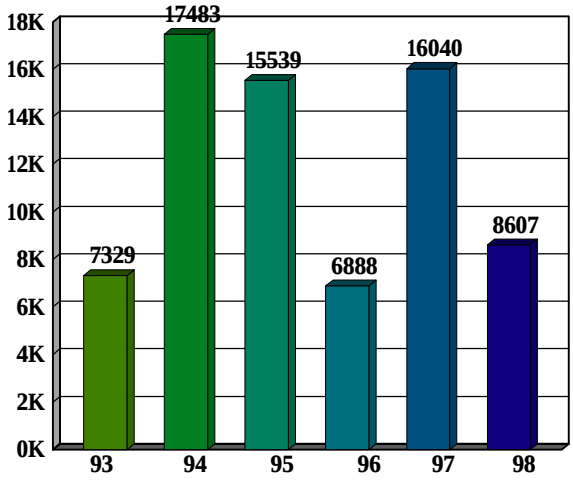
TS Goal: 111,290 acres
Definition: A comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge, or other plant nutrients.
Applied to: cropland
Nitrogen Efficiency: model-derived reduction
Phosphorus Efficiency: model-derived reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



1998 Progress for Nutrient Management Plan Implementation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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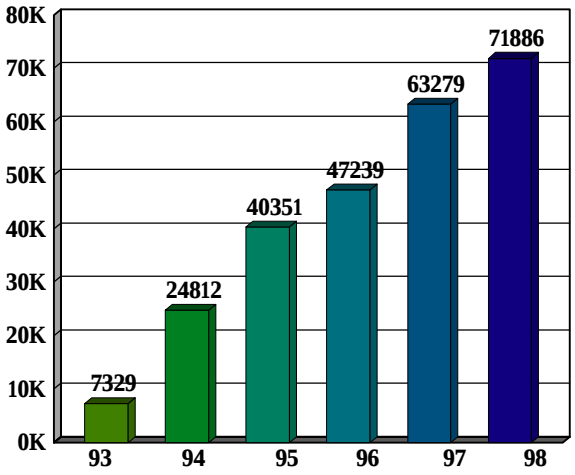

Cumulative

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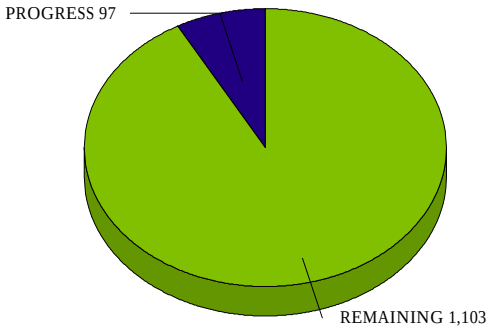
Upper Western Shore

Retirement of Highly Erodible Land

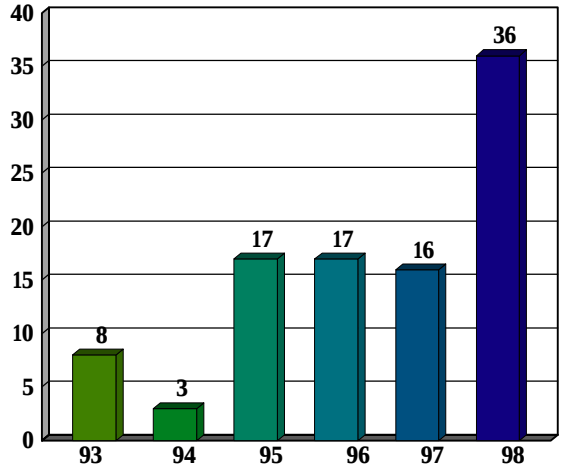
TS Goal: 1,200 acres
Definition: An accelerated application of practices used in SCWQPs on lands with a high potential for soil loss.
Applied to: cropland and pasture
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Retirement of Highly Erodible Land
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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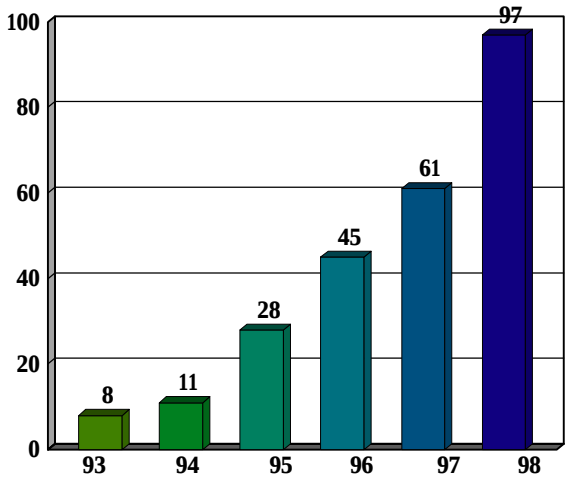

Cumulative

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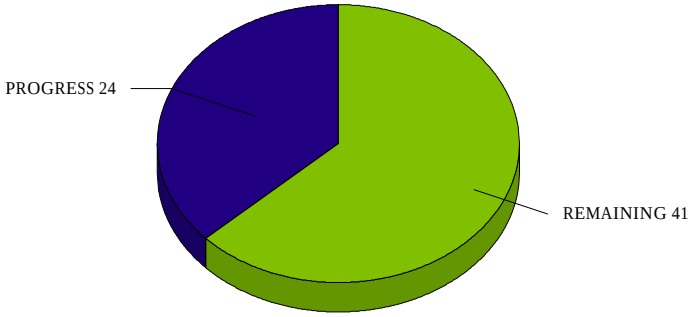
Upper Western Shore

Runoff Control

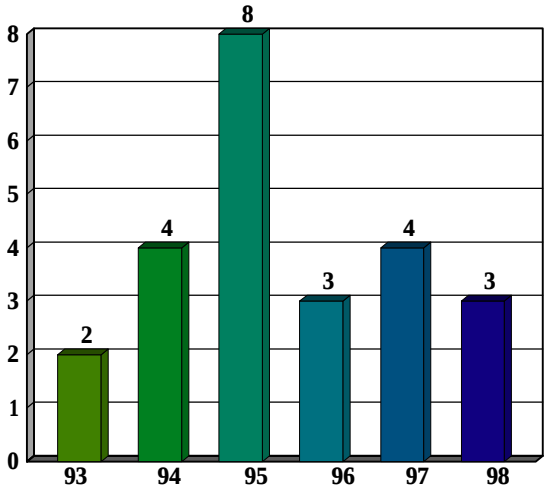
TS Goal: 65 systems
Definition: Systems for the proper handling, storage, and use of waste generated by confined animal facilities. These include ponds, lagoons, and tanks for liquid waste, and sheds or pits for solid waste.
Applied to: manure
Nitrogen Efficiency: 10% reduction
Phosphorus Efficiency: 10% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



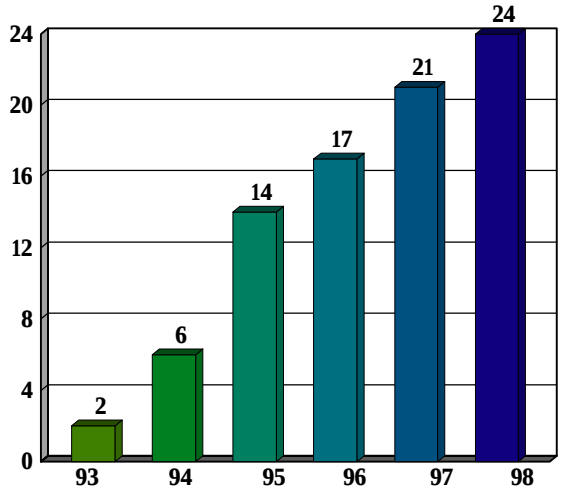
1998 Progress for Runoff Control
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



Annual



Cumulative

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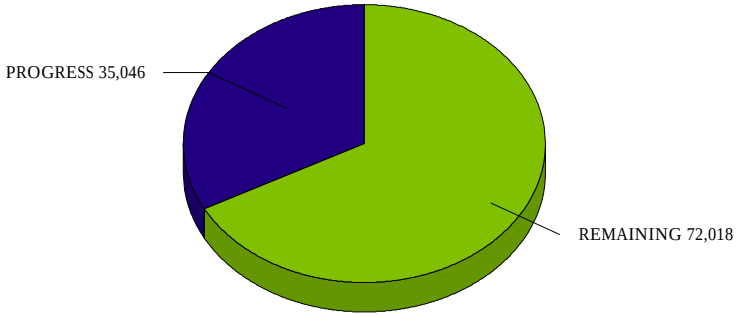
Upper Western Shore

SCWQP Implementation and Treatment of Highly Erodible Land

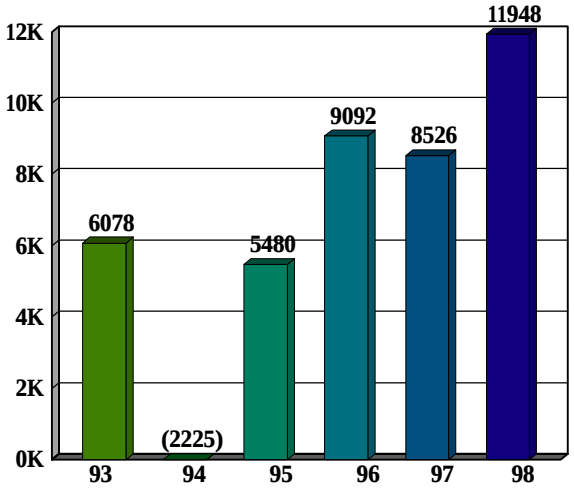
TS Goal: 107,064 acres
Definition: A comprehensive plan addressing natural resource management of farmland directed toward the control of erosion and sediment loss, and management of animal waste or agricultural chemicals.
Applied to: cropland and pasture
Nitrogen Efficiency: 11% reduction
Phosphorus Efficiency: 21% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - High



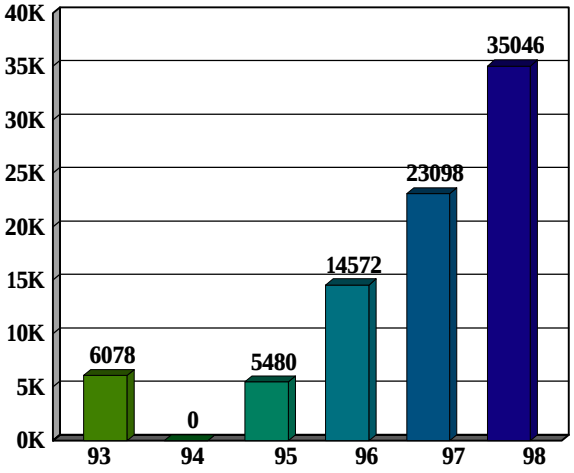
1998 Progress for SCWQP Implementation and Treatment of Highly Erodible Land (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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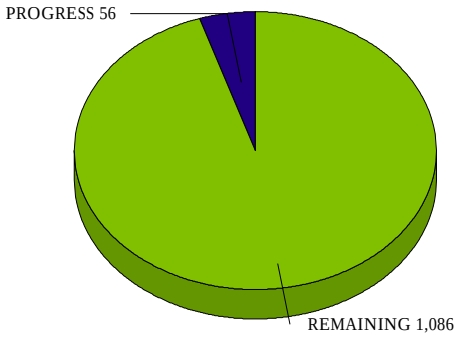
Upper Western Shore

Stream Protection with Fencing

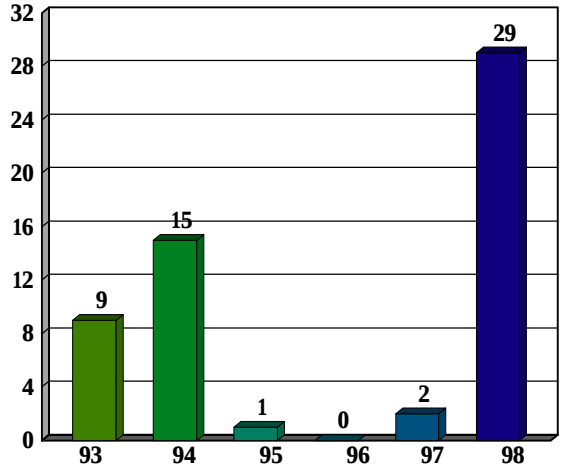
TS Goal: 1,142 acres
Definition: Fencing along streams to completely exclude livestock from the stream. Also improves streambank stability and reduces sedimentation.
Applied to: pasture
Nitrogen Efficiency: 75% reduction
Phosphorus Efficiency: 75% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection with Fencing
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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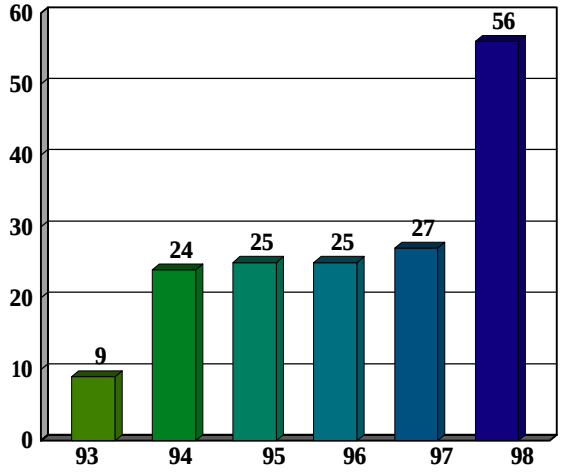

Cumulative

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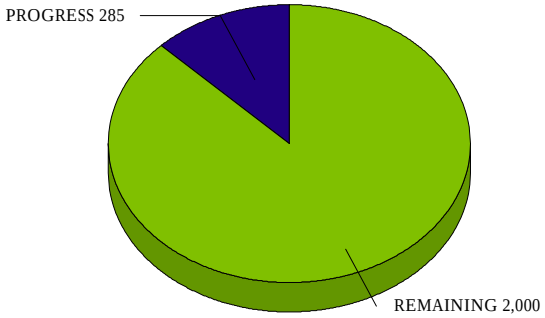
Upper Western Shore

Stream Protection without Fencing

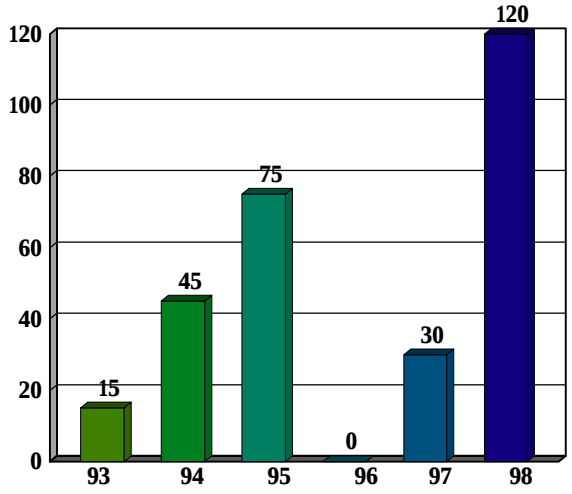
TS Goal: 2,285 acres
Definition: Providing troughs or other watering devices in remote locations away from the stream to discourage animals from entering the stream, and the provision of some fencing adjacent to stream crossings to limit access points.
Applied to: pasture
Nitrogen Efficiency: 38% reduction
Phosphorus Efficiency: 38% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Stream Protection without Fencing (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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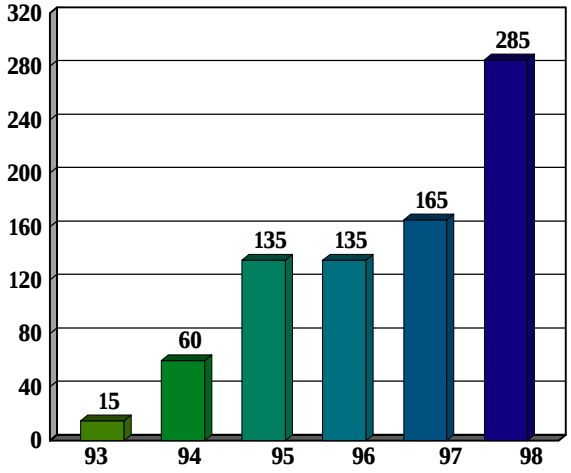

Cumulative

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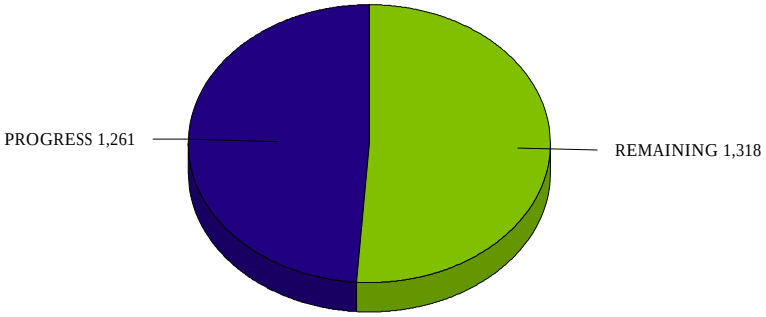
Upper Western Shore

Forest Conservation

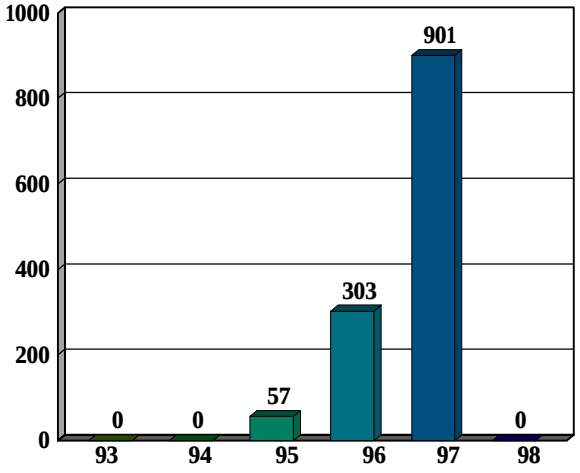
TS Goal: 2,579 acres
Definition: Implementation of the Forest Conservation Act, which requires the retention of a portion of forested lands on any newly developed site.
Applied to: urban land
Nitrogen Efficiency: land conversion reduction
Phosphorus Efficiency: land conversion reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



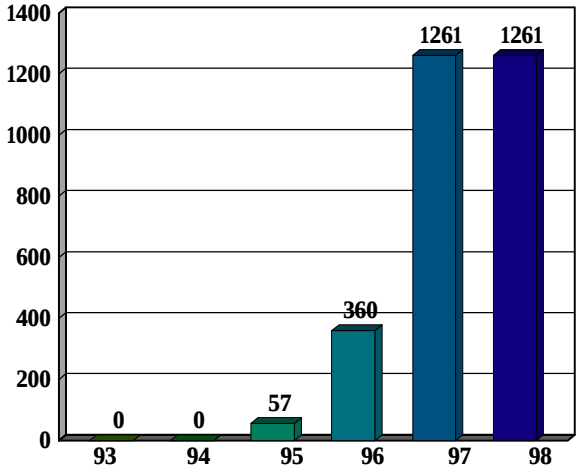
1998 Progress for Forest Conservation
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



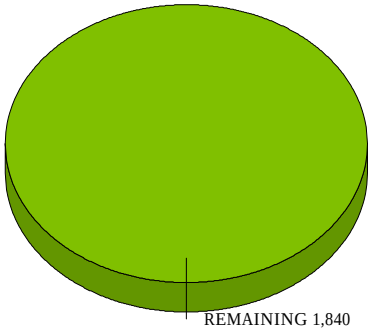
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Forest Harvesting Practices

TS Goal: 1,840 acres
Definition: Application of regulatory and voluntary best management practices applied to timber harvests, including erosion and sediment control and streamside management zones.
Applied to: forest land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



1998 Progress for Forest Harvesting Practices
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

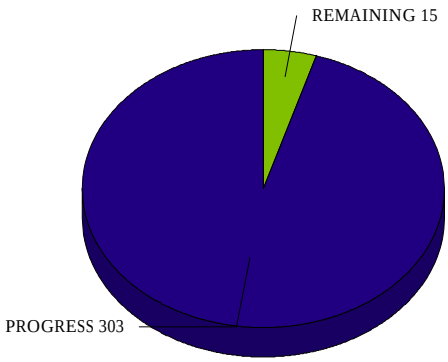
Annual	Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Forested Buffers

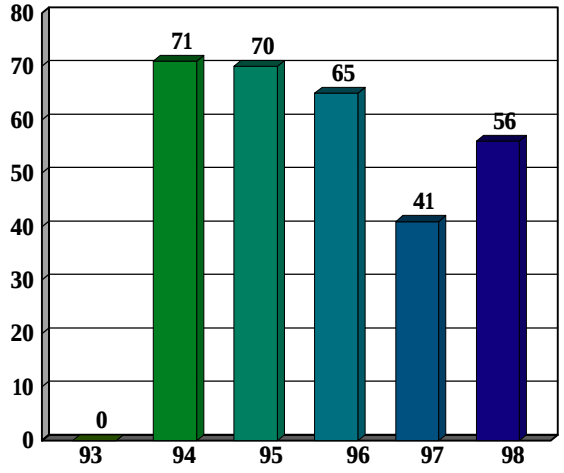
TS Goal: 318 acres
Definition: A linear strip of forest along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 56% reduction
Phosphorus Efficiency: 70% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



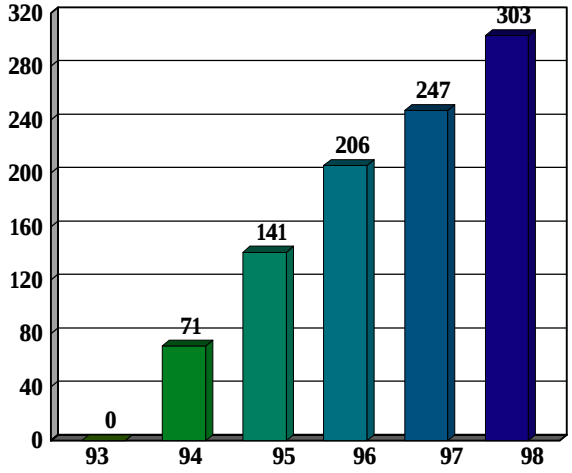
1998 Progress for Forested Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



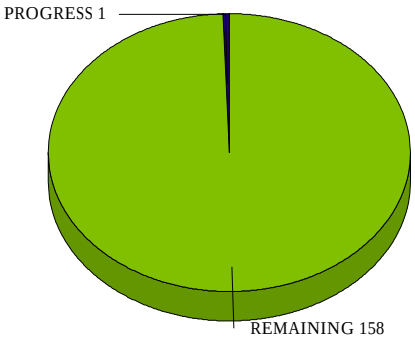
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Grassed Buffers

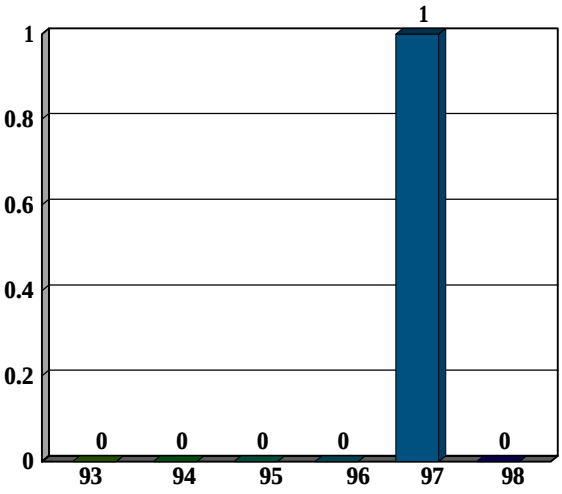
TS Goal: 159 acres
Definition: A linear strip of grass along rivers and streams that filters nutrients and sediment and enhances stream habitat.
Applied to: cropland and pasture
Nitrogen Efficiency: 41% reduction
Phosphorus Efficiency: 53% reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



1998 Progress for Grassed Buffers
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



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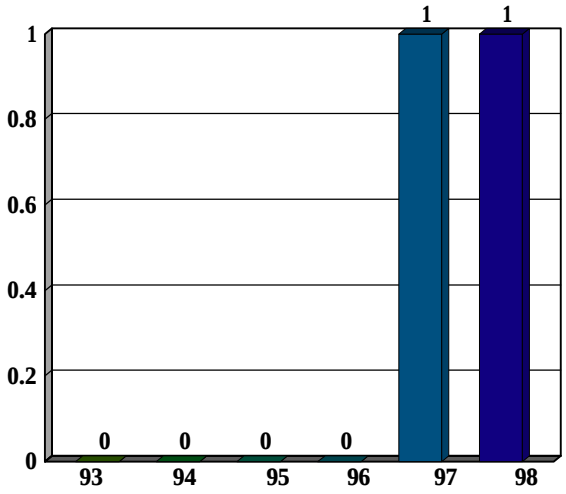

Cumulative

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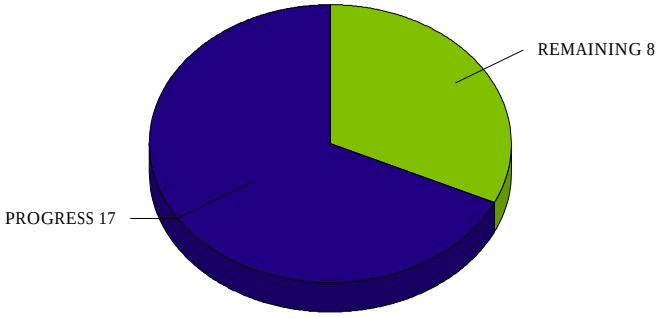
Upper Western Shore

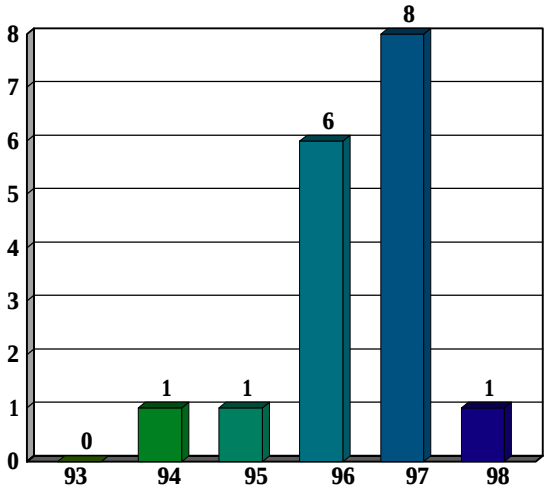
Marine Pumpouts (installation)

TS Goal: 25 marinas
Definition: A facility sited at marinas for pumping sewage from boat holding tanks to a dockside storage facility.
Applied to:
Nitrogen Efficiency: reduction
Phosphorus Efficiency: reduction
BMP Rankings:
Ability to Reduce Nutrients: High
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

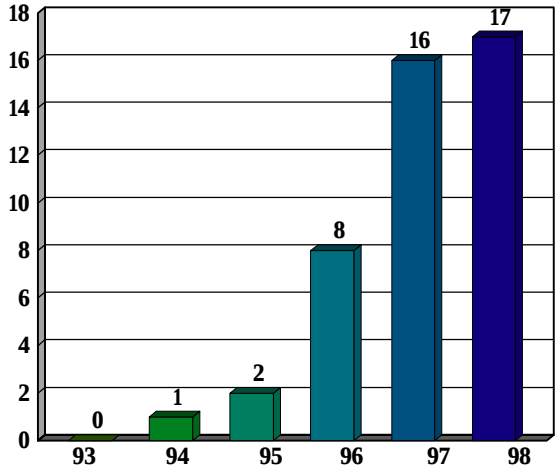


1998 Progress for Marine Pumpouts (installation)
(as a percentage of TS goal, labeled units are marinas)

Implementation Record
(marinas)



Annual



Cumulative

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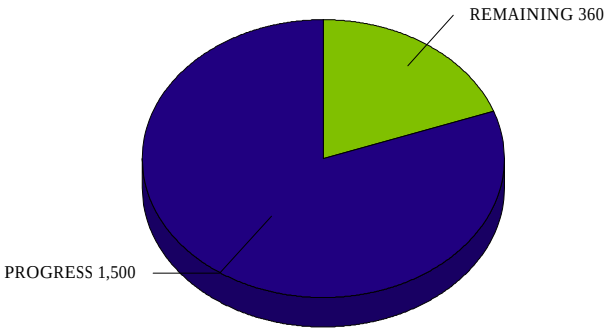
Upper Western Shore

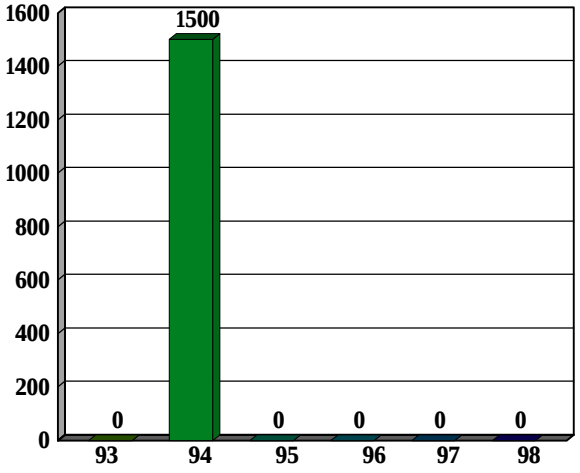
Nonstructural Shore Erosion Control

TS Goal: 1,860 linear feet
Definition: A practice for stabilizing eroding shorelines by establishing marsh grasses; suitable for sites with lower wave energy. Also creates wetland habitat.
Applied to:
Nitrogen Efficiency: 66 lbs per l.f. reduction
Phosphorus Efficiency: 40 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium

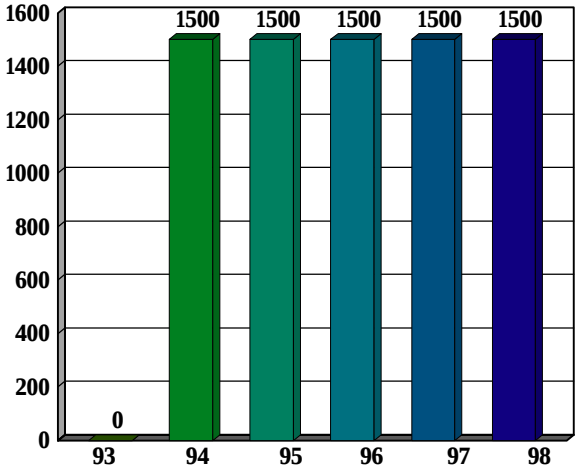


1998 Progress for Nonstructural Shore Erosion Control
(as a percentage of TS goal, labeled units are linear feet)

Implementation Record
(linear feet)



Annual



Cumulative

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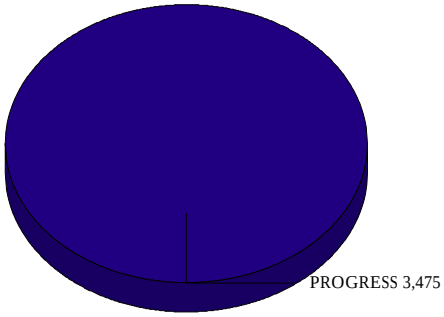
Upper Western Shore

Structural Shore Erosion Control

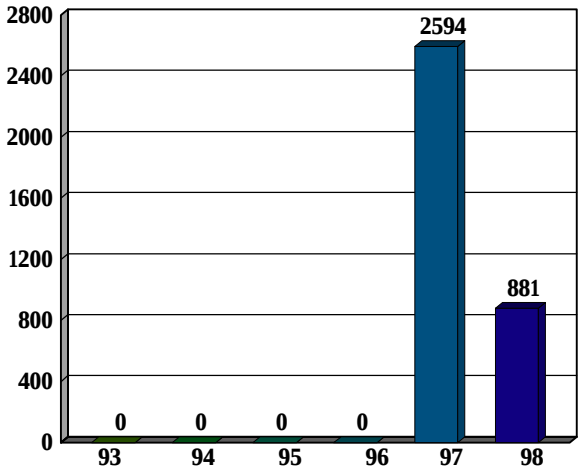
TS Goal: 1,680 linear feet
Definition: A practice for stabilizing eroding shorelines using stone riprap or timber bulkheads. Suitable for sites with high wave energy.
Applied to:
Nitrogen Efficiency: 101 lbs per l.f. reduction
Phosphorus Efficiency: 67 lbs per l.f. reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Medium



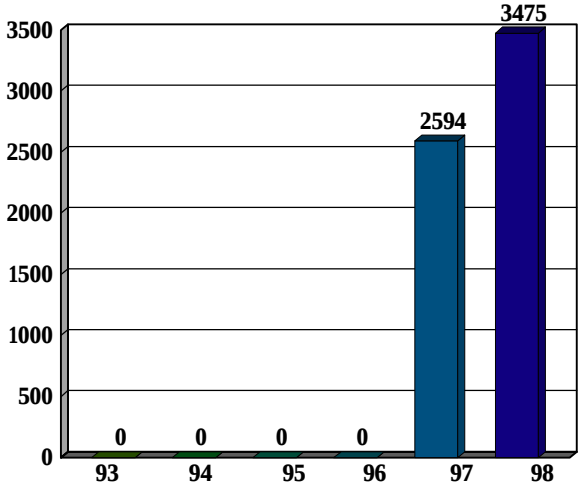
1998 Progress for Structural Shore Erosion Control (as a percentage of TS goal, labeled units are linear feet)

Implementation Record

(linear feet)



Annual



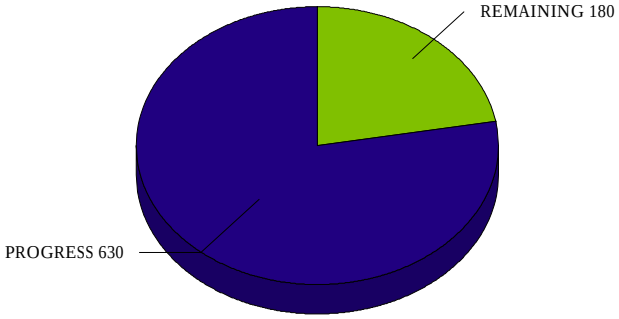
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Tree Planting

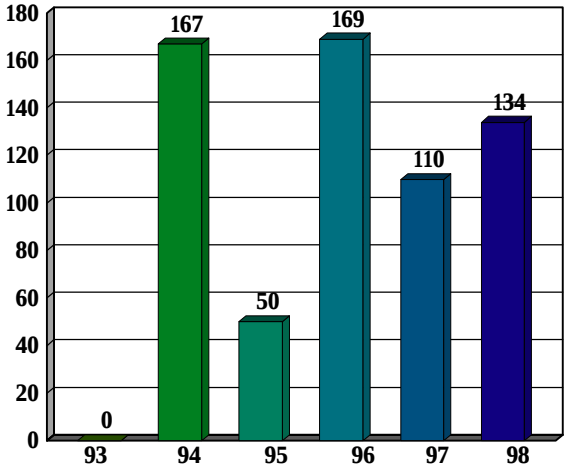
TS Goal: 810 acres
Definition: Includes any tree plantings on any site except those along rivers and streams.
Applied to: urban land
Nitrogen Efficiency: 0 reduction
Phosphorus Efficiency: 0 reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



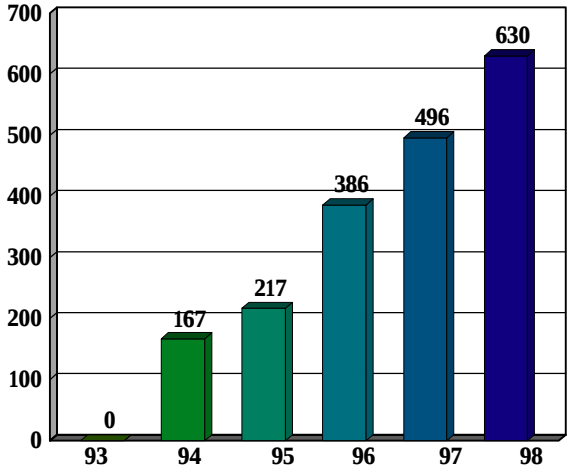
1998 Progress for Tree Planting
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



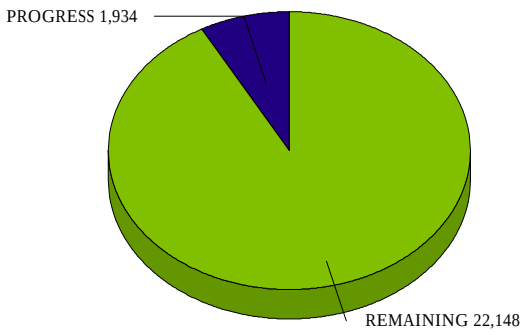
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Enhanced Stormwater Management

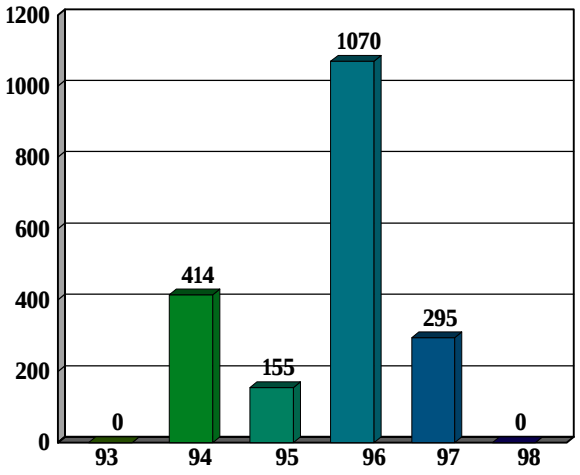
TS Goal: 24,082 acres
Definition: The regulatory requirement for the control of Stormwater on all new development, including maintenance on new and existing facilities. Enhancements emphasize water quality controls in addition to water quantity controls.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - High
Phosphorus - Medium



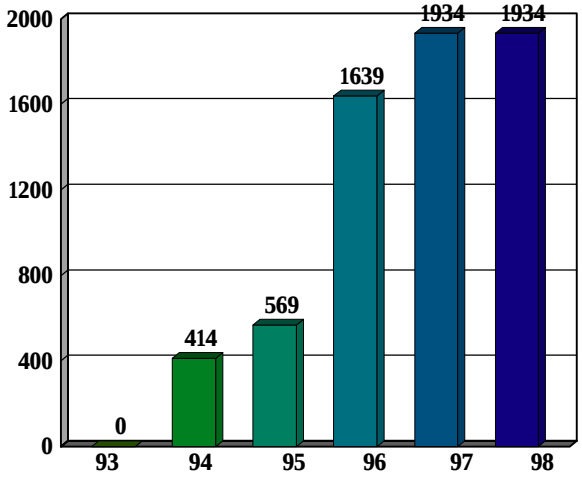
1998 Progress for Enhanced Stormwater Management (as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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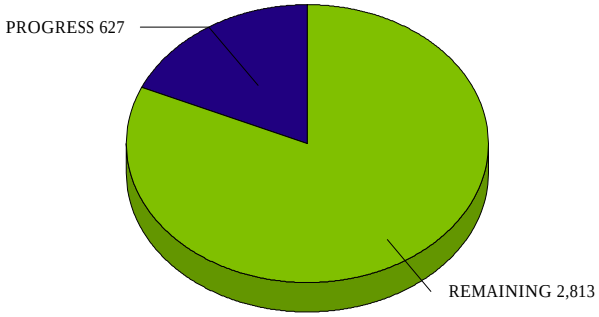
Upper Western Shore

Erosion and Sediment Control

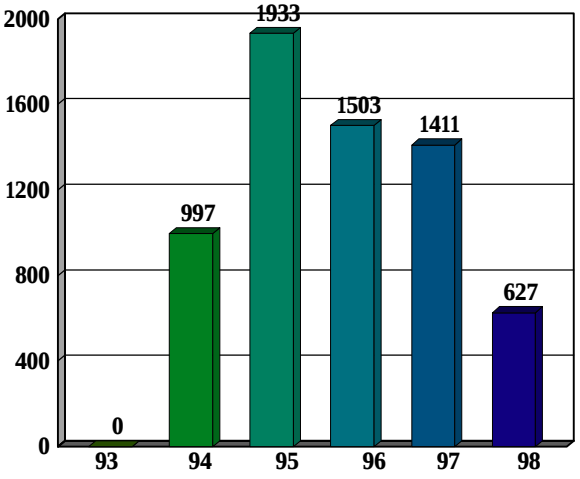
TS Goal: 3,440 acres
Definition: The regulatory requirement for erosion and sediment control on all new development over 5,000 square feet. Reduces the high nutrient and suspended sediment loads during the transitory construction phase.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 50% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



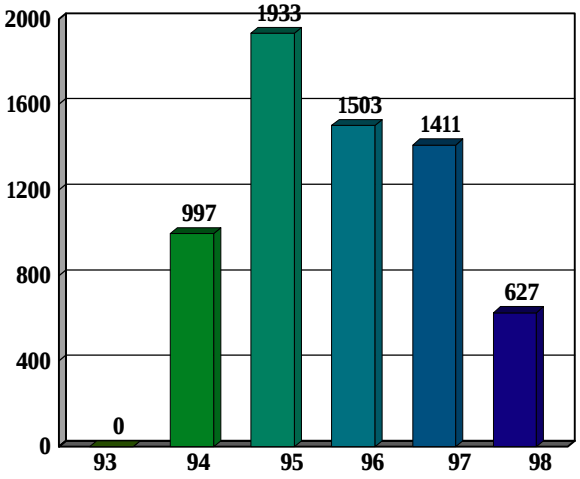
1998 Progress for Erosion and Sediment Control
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



Cumulative

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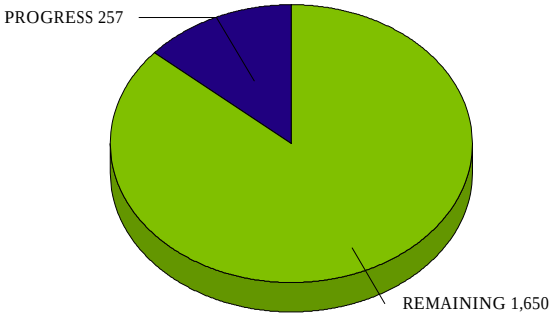
Upper Western Shore

Septic Connections

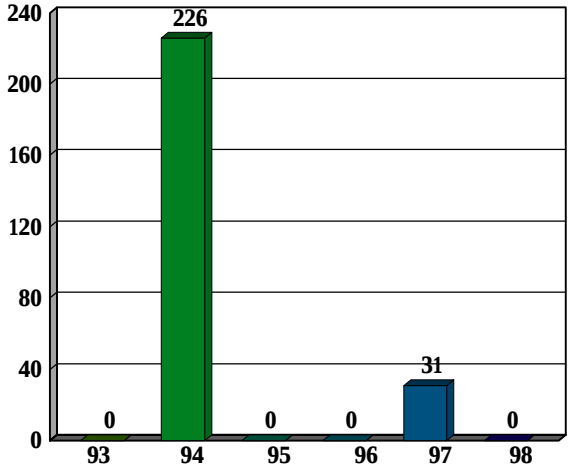
TS Goal: 1,907 systems
Definition: The connection of failing septic systems to sewer lines.
Applied to: urban land
Nitrogen Efficiency: 55% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - n/a



1998 Progress for Septic Connections
(as a percentage of TS goal, labeled units are systems)

Implementation Record

(systems)



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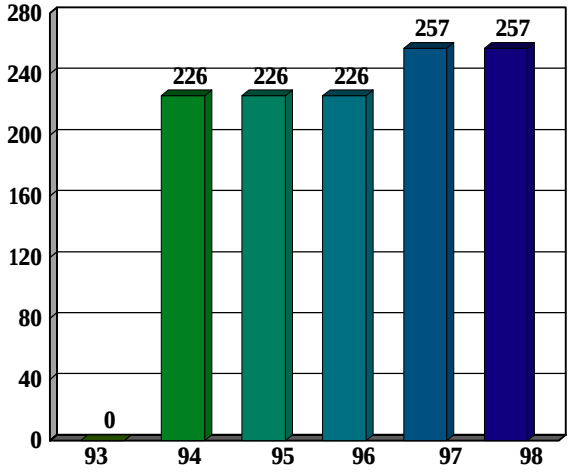


Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Septic Denitrification

TS Goal: 0 systems
Definition: The installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems.
Applied to: urban land
Nitrogen Efficiency: 50% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a

1998 Progress for Septic Denitrification
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

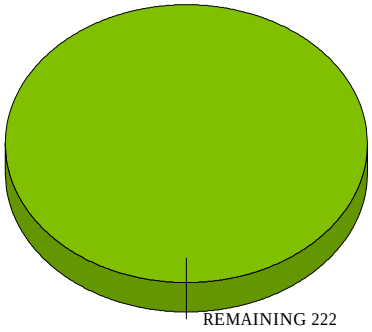
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Septic Pumping

TS Goal: 222 systems
Definition: Pumping individual septic systems once every three years, the average routine maintenance of these systems.
Applied to: urban land
Nitrogen Efficiency: 5% reduction
Phosphorus Efficiency: no reduction reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - n/a



1998 Progress for Septic Pumping
(as a percentage of TS goal, labeled units are systems)

Implementation Record
(systems)

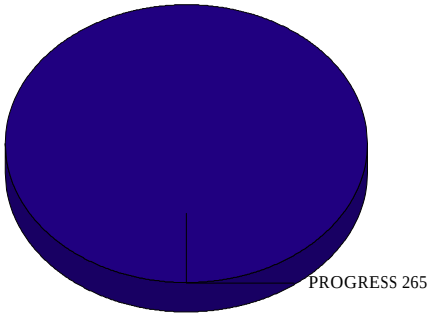
Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Stormwater Management Conversion

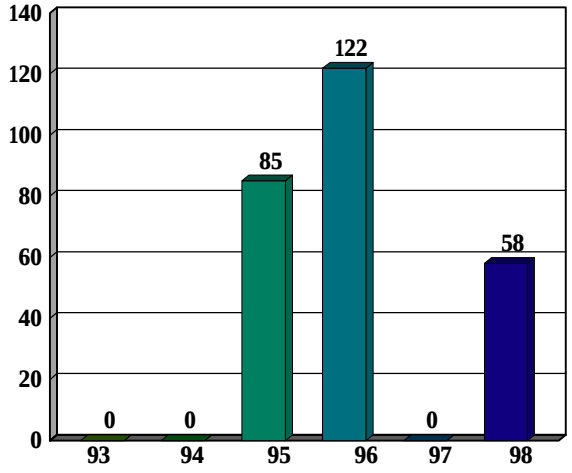
TS Goal: 190 acres
Definition: Conversion of dry ponds for Stormwater management to extended detention or retention facilities which are more effective at nutrient removal.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



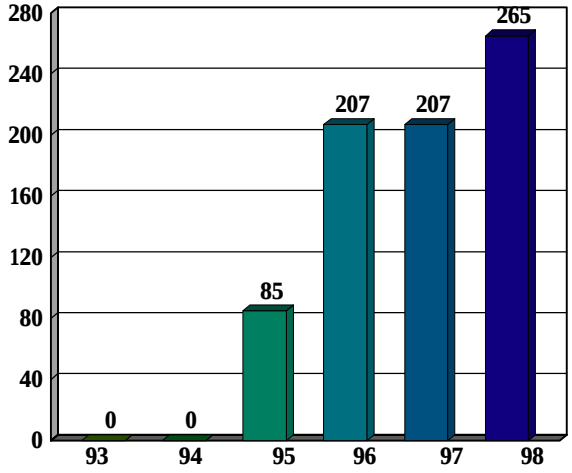
1998 Progress for Stormwater Management Conversion
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



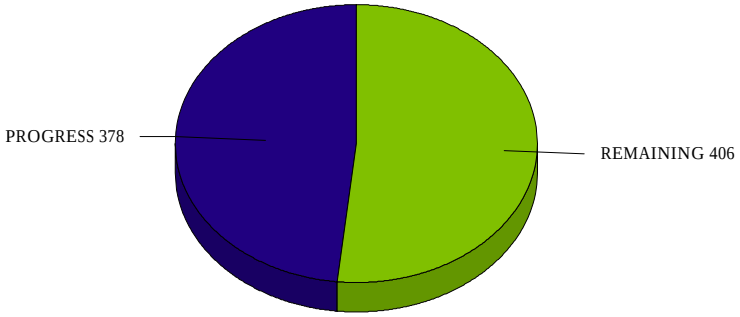
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Stormwater Management Retrofits

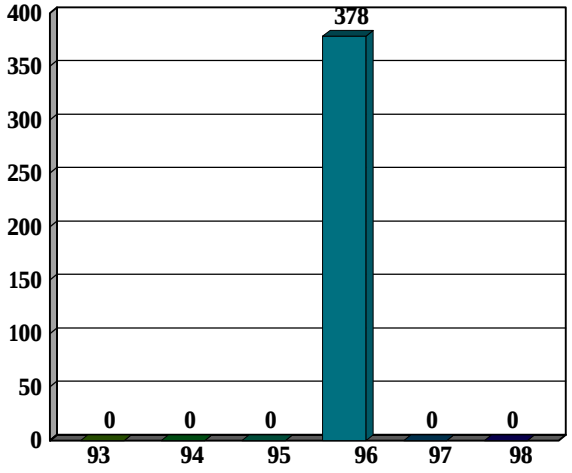
TS Goal: 784 acres
Definition: Construction of Stormwater facilities on lands previously developed without such facilities.
Applied to: urban land
Nitrogen Efficiency: 33% reduction
Phosphorus Efficiency: 46% reduction
BMP Rankings:
Ability to Reduce Nutrients: Medium
Importance in Statewide Strategy:
Nitrogen - Low
Phosphorus - Low



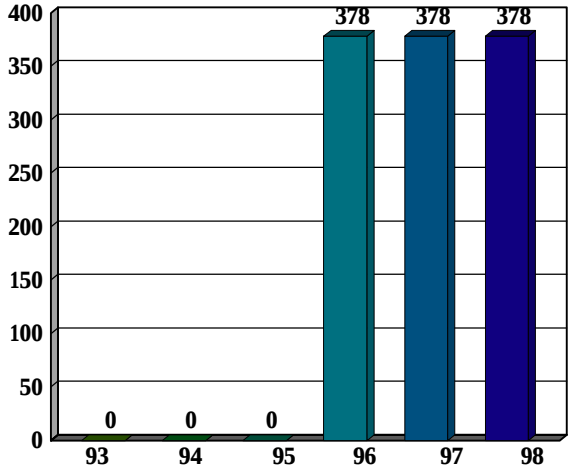
1998 Progress for Stormwater Management Retrofits
(as a percentage of TS goal, labeled units are acres)

Implementation Record

(acres)



Annual



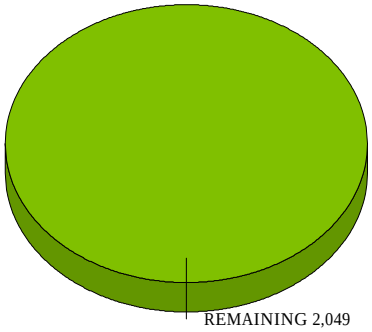
Cumulative

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.

Upper Western Shore

Urban Nutrient Management

TS Goal: 2,049 acres
Definition: A public education program to reduce excess lawn fertilizer use, targeted at suburban residents and businesses.
Applied to: urban land
Nitrogen Efficiency: 17% reduction
Phosphorus Efficiency: 22% reduction
BMP Rankings:
Ability to Reduce Nutrients: Low
Importance in Statewide Strategy:
Nitrogen - Medium
Phosphorus - Low



1998 Progress for Urban Nutrient Management
(as a percentage of TS goal, labeled units are acres)

Implementation Record
(acres)

Annual **Cumulative**

NOTES: (1) Implementation data is organized by State fiscal year (i.e. 1994 = July 1, 1993 - June 30, 1994). (2) Most implementation data is based on State program activities, funding and/or requirements. (3) BMP definitions are from "Maryland's Tributary Strategies for Nutrient Reduction" report, 1995. (4) BMP implementation data is from the Maryland Interagecy Tracking Subcommittee. (5) Efficiencies are average statewide efficiencies.